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MONTHLY MAGAZINE.

MAY, 1880.

AT CHRISTIANA, Norway, the sun in summer is continually above the horizon for two months or more. As growth in plants goes on only in sunlight, this process in our latitude is interrupted every evening, and a season of repose to vegetation ensues until the morning light again excites it to activity. In high latitudes, however, such as the locality at Christiana, and similar ones, where the summer is practically one long day, the vegetable forces are unceasing in their activity from the time of starting in spring until the night of winter shuts in upon them. The effect of this continuous sunlight is to cause the same plants to grow with greater rapidity, and to pass through the different changes from germination to seed ripening in a much shorter time than in more southern localities. Dr. SCHUBELER, of Christiana, has for several years been carefully experimenting with plants raised from seed produced in lower latitudes, and observing the results in these plants of the uninterrupted sunlight of Norway. The publication of these experiments puts us in possession of the facts he has learned, and the conclusions in relation to them. Without entering upon a notice of them in detail, we only state a part briefly.

Experiments were made for a number of years in raising wheat from seed originally obtained from southern Russia, in the neighborhood of the Black Sea, and from the State of Ohio. It is stated that the grain each year became darker

colored until at last it was of the yellowish-brown hue of the Norwegian Wheat. Equally marked results were obtained in Maize, Peas, Beans and other garden vegetables procured from southern sources. The common garden flowers of Central Europe were found to increase in size and in intensity of color when cultivated in Norway. In reference to fruit, it is stated that the cultivated fruit of Europe raised in Norway are more highly colored and their aroma stronger than in their original lower latitudes; but they lack in sweetness, so much so, that to one accustomed to eat them in Central Europe or in the United States, they would seem unripe. Dr. SCHUBELER calls to mind a fact that had previously been noticed in Portugal, that the Strawberries there were large and sweet, but almost wholly deficient in aroma and flavor. The Portuguese wines are in the same condition, sweet, but lacking in flavor when compared with the yields of the Rhine vineyards. Thus, the conclusion is that an abundance of light is essential to the production of aroma in fruits as a high degree of heat is necessary to sweetness. Good samples of Celery raised in Norway were so sharp and unpleasant as not to be relished, and the same is true of Garlic and Onions and some of the savory herbs. Dr. SCHUBELER recommends the cultivation in high latitudes of those plants that are valuable for their aromatic oils. His general conclusions are as follows:

"1. The grain of Wheat that has been grown in low-lying lands may be propagated with success on high fields, and will reach maturity earlier at such elevation, even although at a lower mean temperature. Such grain, after having been raised for several years at the highest elevation which admits of its cultivation, is found when transferred to its original locality to ripen earlier than the other crops which had not been moved. The same result is noticeable in grain that has been transported from a southern to a more northern locality, and *vice versa*.

"2. Seeds imported from a southern locality, when sown within the limits compatible with their cultivation, increase in size and weight, and these same seeds, when removed from a more northern locality to their original southern home, gradually diminish to their former dimensions. A similar change is observable in the leaves and blossoms of various kinds of trees and other plants. Further, it is found that plants raised from seed ripened in a northern locality are hardier, as well as larger, than those grown in the south, and are better able to resist excessive cold.

"The further north we go—within certain fixed limits—the more energetic is the development of the pigment in flowers, leaves and seeds. Similarly the aroma, or flavor, of various plants or fruits, is augmented in intensity the further north they are carried within the limits of their capacity for cultivation; conversely, the quantity of saccharine matter diminishes in proportion as the plant is carried further northward."

With the facts before the public in the report now noticed, the attention of English horticulturists for a few months past has been directed to the inquiry of the effect upon plants of electric light in plant houses, as it was known that the electric light had precisely the same effect upon vegetation as sunlight. To solve the problem of continuous light in forcing plants, sunlight being supplemented at night by electric light, Dr. SIEMENS has been conducting some experiments during the winter and spring, and has reported the results to the Royal Horticultural Society; these are highly satisfactory, and indicate almost conclusively the use of the electric light very generally in large establishments for the economical production of plants for commercial purposes.

Dr. SIEMENS exhibited two plants of Strawberries raised in pots that had received similar treatment in all respects, except that for fourteen nights one of them had been under the influence of the electric light while the other had not. The one that had been exposed to continuous light, that of the sun during the day and electric light at night, had larger, handsomer

foliage, and of a darker green than the one grown only by daylight. The fruit of the electric light subject was a week or ten days in advance of the other. While almost every berry on the plant exposed to the electric light was ripe, only one or two on the other plant showed slight indications of color. Seeds of Mustard, Carrots, Turnips, Beans, Cucumbers and Melons had been sown in pots; when the seeds had germinated, the pots were placed in four groups, one of which was kept quite dark, one was subjected to the electric light only, one only to daylight, and one successively to daylight and electric light. The plants left entirely in the dark soon died; those exposed to sunlight or electric light only, appeared about in the same condition; but those that received both sunlight and electric light far surpassed the others. The specimens of Mustard and Carrots are spoken of as showing the difference in a remarkable degree.

Two buds of Countess of Oxford Rose were exhibited. One had had been exposed to the electric light for forty-eight hours, and one grown as usual. The bud under the electric light was considerably more advanced.

In the case of two spathes of *Calla Æthiopica*, one grown in the ordinary manner and the other subjected for forty-eight hours to electric light, the difference was exceedingly striking, the plant grown under the electric light being much in advance of the other.

Before concluding his observations, Dr. SIEMENS placed a pot of budding Tulips in the full brightness of an electric light in the room, and in about forty minutes the buds had expanded into full bloom.

Although Dr. SIEMENS considers his investigation of this subject only to have commenced, he thinks it is already fairly proved that the electric light is efficient in promoting the healthy growth of plants, and that plants do not require a period of rest during the twenty-four hours of the day, but make more vigorous growth if subjected to sunlight in daytime and the electric light at night; proof on this point was really not needed, as their growth in high latitudes had demonstrated it. The cost of using the electric light for horticultural purposes will mainly depend upon the cost of mechanical power, and this will vary greatly with the use of steam or water power. Where waterfalls are convenient, their force may be utilized at little expense.

This subject is one of much scientific interest, but to the horticulturist it suggests most important practical results; time alone can tell what these may be, although we may not be able to refrain altogether from some very bright anticipations.

FLOWERS AND THEIR ARRANGEMENT.

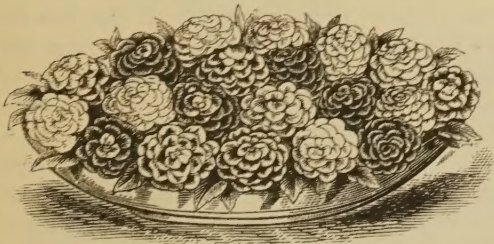
THE GOOD THINGS easily obtained are not often appreciated, while those only to be had at great cost are prized far above their value. Nature has furnished the inhabitants of almost every clime a feast of good things to be had



almost for the asking, and with which they may be well content; but in countries where the Orchids and other gorgeous tropical flowers bloom abundantly the little Daisy and Pink are more eagerly sought, while we pass by these simple yet beautiful flowers as almost unworthy our notice.

We have been in countries where the Balsam, if planted in the garden at all, must first be grown of large size, in pots under glass, and transferred to the garden when almost in bloom; though it was generally treated as a greenhouse plant and kept in conservatories, where it certainly rivaled in beauty its more aristocratic neighbors; for a well grown Balsam plant is an object of real beauty.

Fortunately, the Balsam will grow in our gardens, in most parts of America, as well as the Aster or Stock, or any of our half-hardy annuals. Seeds sown in a box in the house, or in a hot-bed or cold-frame, will produce plants



quite freely and early, and strong enough to be transplanted to the garden as soon as danger of frosts and cold nights is over. If seeds are sown in a dry, warm bed in the garden, in a sheltered place, the plants will be quite early

enough for transplanting, especially if a little pains is taken to shelter the bed from the wind.

We were induced to mention this subject, because a correspondent desired us to suggest some way to correct the faults that this flower possessed. First, that the plants grow so dense as to conceal more than half their flowers; second, that the flower stems are so short as to make them unfit for cut flowers. The first fault is easily corrected. The Balsam truly throws out a great many branches, forming a dense head, in which most of the flowers are concealed. This we remedy by pinching out when young all unnecessary branches, leaving only four or five, which will make a pretty open plant. The branches left will grow larger and stronger and flower more freely by this treatment, giving perfect wreaths of bloom. Sometimes we remove all but the center branch. Both plans we have endeavored to illustrate in the engraving. Few of our readers know the possibilities of a paper of Balsam seed, and how much pleasure and beauty can be derived from the investment of a



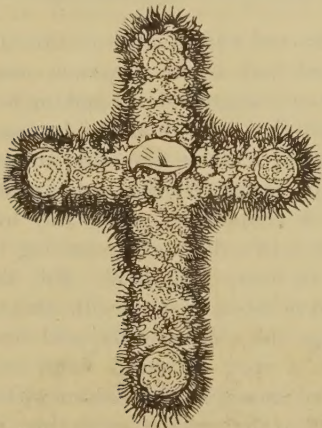
few pennies and a little labor in this direction. The second fault is not a serious one to the florist, because when bouquet making he usually furnishes all flowers with artificial stems, and in the absence of a white Camellia, nothing is so good for the center of a bouquet as a fine white Balsam. A simple and pretty way to exhibit this flower is in a flat dish, something that can be found in every household. Fill this with damp sand or moss, cover it with Balsam flowers, arrange the colors nicely, and few things will make a more beautiful floral ornament. This way of arranging the Balsam we have also endeavored to show in the engraving.

Another plan is to place a tea-cup, or something of the kind, in the center of a plate to hold loose flowers, while the latter is covered with flowers without stems. In this way a somewhat pyramidal form is obtained. Pansies used in this way produce a very fine effect. Our art-

ist has endeavored to show one of these ornaments with a goblet in the center. This may be so covered with flowers as to entirely conceal the glass, or be left exposed as in the engraving. These suggestions are merely designed to aid those in pursuit of information.

Flowers are the emblems of innocence and purity, the tokens of affection. We present flowers to those we love in seasons of joy and hours of sorrow, and it is well to learn how to arrange them in the most attractive and expressive forms, or at least how to avoid those forms that are really repulsive to persons of good taste. Presents of flowers are always appropriate—they may be choice exotics, or the simple Rose-bud; all are alike acceptable, and almost equally beautiful. A few weeks since we assisted in placing a friend in his last earthly resting place. Kind friends had sent floral wreaths and crosses, and many other beautiful designs, but as we lowered the casket into the grave a laboring man pressed his way to the edge, and gently placed upon it a little bouquet of simple flowers, evidently gathered from a few home plants—his little all—and hurried away to hide the unbidden tears. All felt that this heart-tribute was greater than all beside, and hard indeed would have been the heart of him who would criticise its form or flowers.

A very pretty design, and perhaps the one most frequently used on funeral occasions, is the cross, composed mainly of white Carnations, with a Rose at each point and a Calla in the center. Of course this may be varied according to the flowers at command. Three Callas across the horizontal arm produce quite a pretty



effect. Florists usually make a green edging of *Lycopodium*, though we like quite as well Ivy leaves, or even the leaves of the *Geranium*.

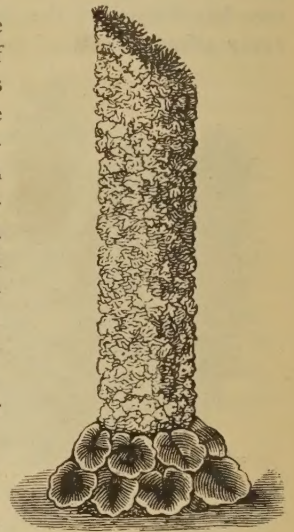
For the funeral of a young person, the broken column is quite appropriate. It is composed mainly of white Carnations, with a base of *Gera-*

nium leaves. About a year ago, we were asked by the friends of an old gentleman to prepare an appropriate floral piece. As he had reached almost ninety years, we thought a completed column, surmounted by a sheaf of Wheat, would be an appropriate emblem. The base was composed of light-colored Roses and Ivy leaves, the column of white Carnations, with a wreath of dark Pansies running around, as seen in the engraving, and the capital of Rosebuds and Ivy leaves.

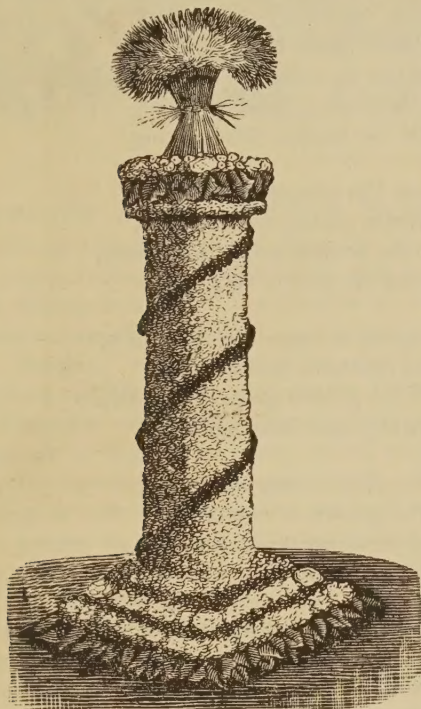
The Press Association of this State assembled in Rochester last summer, and nearly every newspaper in the State was represented. The ladies and professional florists united in decorating the hall where the meetings were held, and seldom have we seen a more tasteful display. The address was delivered by WHITELAW REID, of the *New York Tribune*, who, at its close, was presented with an elegant floral design, showing the editorial chair, inkstand and pen. We secured a photograph, from which the engraving is taken. As a general rule, flowers should be arranged in simple forms, and any attempt to make horses and elephants, or, indeed, any animate object, is simply ridiculous, and exceedingly so when the animal caricatured is one of large size and great strength, for flowers will always be the representatives of sweetness, delicacy and grace.

Florists use these forms of wire, but the amateur may make them of willow, or any material that may be handy, somewhat in the way of basket work. The form is filled with moss, in which the stems of the flowers are inserted, so as to keep them in place. If the flowers have not stems suitable for the purpose, they are provided with artificial stems of small pieces of wood, like toothpicks, splints of broom, or wire.

Among the many plants for ornamental foliage beds, there are none, perhaps, more useful or popular than the varieties of *Coleus*. Their leaves present an almost endless show of brilliant colors; they are easily grown, and therefore can be obtained at little cost, about seven dollars for a hundred being the usual price, and when large quantities are required, may be obtained for less. Most of the varieties bear



the sun and storms remarkably well, and what is quite important, will bear shearing, so that plants can be kept of uniform height, thus producing an even surface. In the colored plate for April we endeavored to show the effect produced by the *Coleus* in a large bed, and we



thought it well to give in this number a dozen or more of the best varieties.

In making a bed for the lawn, it will generally be found that those with broad leaves, and of a dark color, bear sun the best, and make the best display of color, contrasting better with the green of the lawn, or with other plants that may be used. One of the oldest and still the best is

Verschaffeltii. If a bed is made entirely of *Coleus*, it would be well to use two or three kinds, placing the darkest in the center, and the brightest for the outside rows, but they are used perhaps with the best effect as an outside border, the center being occupied by taller plants. In either case, the plants should be set about twelve inches apart each way, and at this distance will cover the entire ground.

It is useless to put out bedding plants until the weather is quite warm and the cool spring nights are over, because being grown in the greenhouse they will receive a severe check from a cold night or two, from which they will slowly recover, while plants set out in a warm, growing time will not notice the removal, and commence a rapid growth at once, and in two weeks after planting will be in their beauty.

We need not describe the varieties shown in our colored plate, as they show for themselves, being generally quite true to nature. No. 1 is *Hero*, very dark, chocolate maroon, a little darker after exposed to the sun than shown in the plate. 2. Multicolor, with a curious blending of orange, green, yellow and other colors. 3. *George Bunyard*. 4. *Garnett*. 5. *Souv. de Lierval*. 6. *Kentish Fire*, a very nice variety for pot culture. 7. *Prince Albert of Prussia*, a new kind with a very pretty leaf, but perhaps best for house culture. 8. *Seventy-Six*, a peculiar orange-like yellow, the under side of the leaf light purple, as shown by the colored plate. 9. *Verschaffeltii major*. 10. The old *Verschaffeltii*, still one of the very best for bedding. 11. *The Shah*, very bold both in form and coloring. 12. *Pictus*, with a strange mixture of green, yellow, red and brown colors. The plant in the center, without number, is *Serrata*, maroon, with a narrow border of yellow or green.





Into Childhood's Land.

O, little, faded Rose bud,
What memories to thee cling
Of the happy, olden summer,
Of the happy, olden spring!

I fear I'm almost dreaming,
While gazing on thee here,
For the present growth dimmer,
And the past is very near.

I wander through life's shadows,
Its sunshine, and its rain,
'Till the golden gates of childhood
Swing open once again.

O, the Robins sing above me,
The garden is in bloom,
And every breath of summer
Is a draught of rare perfume.

And the Roses on the trellis
Are swinging in the breeze,
And the Clover-heads are bending
To the weight of golden bees.

And I'm a little maiden,
With blossoms in my hair,
Whose wayward thoughts and fancies
Are drifting everywhere.

O, little, faded Rose-bud,
Thou hast some subtle powers
That thus thou send'st me dreaming
Among the vanished flowers.

Know'st thou life's earnest labors
Are waiting many a hand?
Perhaps, I should not wander
In this enchanted land.

So, farewell, little Rose-bud!
With something, almost tears,
I lay thee with my relics,
To rest again for years.

—MRS. CHARLOTTE E. FISHER.





THRIFT AS AN EDGING PLANT.

The past winter, you are aware, has been one of unusual severity for this coast, and much of the former conceit of Californians is on the wane in regard to our mild and beautiful winter weather. At this point the thermometer marked 20° for several days during December, and many a well-loved garden favorite has succumbed to the chilly wintry blasts that was usually considered proof against cold. And as spring is now fairly upon us, we look around the garden to see what can be done to repair the wreck so as to produce the best results.

The first and most important point in our climate, where we try to keep up a respectable appearance in the garden the year round, is a good permanent border, one that will look well winter and summer; among the score of plants used for this purpose, none, in my estimation, answers so well as Thrift, *Armeria vulgaris*, and I am surprised, in looking over the articles of your many contributors, that none have a word of praise for this beautiful little plant. It is very easily propagated from cuttings; every piece will make a plant if taken in the fall or early spring, and is perfectly hardy. Its modest little clusters of pink flowers standing well above the foliage are useful for making up floral work; the plants always look well, without the aid of shears to keep them in trim. In fact, it combines all the qualities of a perfect edging plant.—J. E. P., *Rio Vista, Cal.*

For several years we have recommended Thrift as the best edging plant we were acquainted with for northern climates.

THE OLD GARDEN.

The old garden! Ah, my good friend, do you remember it? The dear old place, "half in shadow, half in sun!" Here delicate Mosses grew about the trees; here a cluster of wood Violets lifted their shy, sweet faces to the morning, and right beside them grew the Blood-root with its white vanishing blooms. And there, the Marigolds! How their rare gold flamed out amid the rich greenness of the leaves! And the great drowsy Poppies; and the Portu-

lacas—a whole mound of glory—and the Tiger Lilies and Zinnias, good old treasures! And the Canterbury Bells, ringing out their joy all through the long restful days; and then the Pansies! Ah, but I remember the pensive, glorified little faces lifted up in perfect beauty to mine. O, little flower saints! dear little Pansies! Some of the old-time blossoms are lying to-day between the pages of a well-worn book, and I never look upon them but a vision of the old garden comes back again. Once more the birds swing and sing amid the Cherry boughs; the sweet winds drop their incense around them; the skies are blue as never before; and the sunlight is all liquid gold, glimmering here, glowing there, and the place is enchanted, and a fitting home for the fairies. And a beloved voice is singing; it is that of mother sitting just inside the sunny window that is draped with Roses and great blue Morning Glories. O, I am a child again! A child! and life is all before me!—Mrs. C. E. F., *Wis.*

COTTON CLOTH FOR HOT-BED.

MR. VICK:—I wish to tell you and the many readers of your MAGAZINE the results of cotton cloth for hot-bed sash in my practice for two years in succession. As I could not set glass here in time for my purpose, I had to use cloth, which was well oiled with linseed oil. The seed grew finely, and everything I planted did well until the plants were three inches high; then there came a very cold spell for three days and nights, so that I could not open the beds. On the fourth day, which was a fine one, as soon as the sun was an hour high, I opened the beds and, behold, my plants of all kinds had grown three inches more during the last three days, and had all fallen over as if some one had rolled them down, and were so spindling that they never survived and were a total failure. Therefore, no more cotton cloth for me, and I have the same to say of others who have tried it. The plants always grow weak and spindling, even by being covered at night. As before remarked, I had the same fatal result with my

plants for two years. I have never had this trouble with glass, and I have now plants of Cabbage, Cauliflower, Onions, Celery and flower plants that have been covered four days and nights with glass, and they are fit for transplanting.—G. C., *Santa Fe, New Mexico.*

THE OLEANDER IN GALVESTON.

MR. VICK:—While, as you say, the Rose is the crown of the garden, it sometimes seems there are too many, to the exclusion of other flowers, in Galveston.

Although a northern man by birth and rearing, I have lived here for the past five years, during which time I have seen no snow, and seem to be forgetting how it looks. This is emphatically the Oleander City. Here the Oleander grows twenty-five or thirty feet in height, and is used hedge-fashion in some places. It is planted on the outer edge of the sidewalk and just inside the fence in front of many residences, the two rows of trees forming a perfect arch over the sidewalk; and from April till November or December they form an arch of flowers, as they are thick with bloom the whole summer long. The red is the common variety, and seems to be hardier and to grow larger than the white, though the white is far from being a rare sight. I can recollect from my boyhood days seeing Oleanders growing in tubs at the north; but I must own that I never saw one in bloom until I came south. Everybody I ask about how they like them answers: "Yes; they are very pretty, but they're so common." They are common, but it seems as though I could never tire of looking at them. The perfume of the flowers seems more like Vanilla than anything else. The Oleander seems to be freer than any other plant from either insects or animals. It is not even troubled with the scale insect which infests it when cultivated at the north. Cows, horses, chickens and the festive goat let it severely alone. The only thing that has bothered it, so far as I know, is a sort of mossy vine, called here, Love Vine. This, however, freezes out in winter, so that in the long run the Oleander wins the fight.

What I have written may not be of interest to you, as you may have been in Galveston or other places where the Oleander hibernates, and know more about it than I can tell you. However, to those who have never seen it in its glory, it is worth a trip to see it.

The city of Galveston is on an island of the same name, the soil of which is sand, with a mixture of decayed vegetable and animal matter; manures and soils are brought from the main land, together with a large quantity of shells.—R. B. S., *Galveston, Texas.*

TROPÆOLUM LOBBIANUM.

The very many varieties of *Tropæolum Lobbianum* form a class of rapidly-growing climbing plants, of the easiest cultivation, that succeed best when grown in poor soil. They produce in profusion flowers of rich and brilliant colors, comprising many elegant varieties that do not in all cases perpetuate themselves true from seed. They are well adapted for training on rafters in the greenhouse, where they blossom freely throughout the winter, and are also excellent house plants. For covering trellises in the open air they are of great value, and they are not to be surpassed for bedding. When used for the latter purpose, care should be had to have strong and healthy plants, and and soon as they commence to grow, their shoots must be carefully pegged down, so as to cover the entire bed. They require to be examined occasionally through the summer, the branches interlaced and pegged down, and some of the largest leaves removed. There are numerous varieties, but the best and most distinct are—Napoleon III, yellow, striped rosy scarlet; Queen Victoria, scarlet, striped vermillion; Monsieur Colmet, bright yellow, spotted with crimson; Triumph de Gand, orange scarlet; Duc de Luynes, dark crimson. The seed is rather sparingly produced, but they can be easily propagated by cuttings of the half-ripened wood. They flower best when grown in poor soil. The seed can be sown in a well-drained pan of light soil, and, as soon as they are strong enough to handle, pot off into four-inch pots, place the plants in a warm, light place, and plant out when all danger from frost is over.

Tropæolum Firefly is, I suppose, a variety of *T. Lobbianum*; it has small leaves, short, pointed branches, and brilliant orange-scarlet flowers. It is an excellent variety for training on trellis-work during the summer, while for flowering in the greenhouse during the winter, it is unequalled, and is a most excellent basket plant.

THE CANARY BIRD FLOWER.

Tropæolum Canariense, or *peregrinum*, is by many recommended as an excellent trellis plant, but I would add, for sheltered situations only. By sheltered situations, I mean places where the plant is not exposed to the sun during the middle of the day, and any variation from this rule will invariably cause much annoyance and disappointment. Why this is so, I cannot say, but I have noticed that where the plant was growing in exposed places, the plants grew very well until about the first of July, and after that time the leaves commenced to decay and turn yellow at the bottom of the plants, and gradually extends toward the top until all the leaves are

in that condition, with the exception of the extreme top part; while if grown in a partially shaded place, the plant, if placed in a well-prepared border, soon attains a height of from ten to twelve feet, producing in profusion its beautiful yellow flowers. The Canary Bird Flower is a native of Peru, from which country it was introduced in 1775. The seed may be sown in a well-drained pan of light soil about April 1st, and placed in a hot-bed, or about April 20th, if placed in a cold-frame; or it can be sown in the place where the plants are to stand, and it sometimes succeeds much better than when sown under glass, but it does not flower so early. If sown under glass, take care that the plants do not become drawn, and do not place them outside until all danger of frost is over. The Canary Bird Flower can also be propagated by cuttings.—C. E. P., *Queens, L. I.*

THE LOCO PLANT.

MR. VICK: As my communication, published in the February number of your excellent MAGAZINE, was made in response to a special request from you, I wish to say in regard to *Malvastrum coccineum* that there is no doubt as to the identity of the plant in question; but since no analysis of it has been made, and though there is strong evidence against it, yet, I do not at pres-



PLANT OF LOCO—OXYTROPIS CAMPESTRIS.

ent desire to state that the plant is poisonous, but to warn stockmen of its doubtful reputation, to avoid needless loss to them. The Agricultural Department at Washington has received complaints against it also. The difficulty of deciding the case will be apparent from the fact that though parts of the plant may be found in the stomachs of stock, yet their death might be

caused by bad water taken after eating the plant. Alkaline water is found in many places on the plains, and is very destructive to life.

The Loco plant is so well known, and has been observed so long that it has received a name, from the Mexicans. The name signifies



FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.

FLOWERS AND THEIR PARTS. NATURAL SIZE.

Figures 1 and 3, *Oxytropis Campestris*; figures 2 and 4, *Oxytropis Lamberti*.

"crazy" or "foolish," referring to the effect of the plant. Animals when poisoned by it refuse to eat anything else, though they refuse to eat it at first unless forced to by the scarcity of other forage. They become very nervous, shying at almost anything. When an attempt is made to lead them over an obstruction, such as a bar or log, they become unmanageable, and if force is used, they work themselves into a frenzy. Ere long such animals are fit for nothing; they become emaciated, wander over the plains eating nothing but Loco, and waste away gradually and die. If they are not too far gone, they can be saved by tying them up for a time till their thirst for the plant has ceased. But a "Locoed" horse seldom recovers the full control of its nervous system.

As this plant is the dread of stockmen, and is not yet perfectly identified, it may be well to give some description of it. The Loco plant grows in tufts, with upright flower-stalks rising from the



NATURAL SIZE.
Fig. 5.



8. Pod of
Oxytropis Campestris.

7. pod of
Loco.

root, there being no stem to the plant. The figure of the Loco will explain the characteristics. As the plant is easily confounded with other species of *Oxytropis* and *Astragalus*, the preceding figures will make the difference clear. The plant belongs to the Pea family, and the flower is made up of a "banner," A in figures 1 and 2, the upright and broad part of the flower, the "wings," B, in figures 1 and 2,

enclosing the "keel," which is shown in figure 4, after being stripped of the "wings." On the shape of the "keel" depends the only distinction between *Oxytropis* and *Astragalus*. All species of *Oxytropis* have a sharp and more or less prolonged tip to the "keel," as shown at D, figures 3 and 4; while the species of *Astragalus* are destitute of such tip, as shown in figure 5—C is the calyx in all the figures. Hence all species of *Astragalus* can be distinguished from it at sight. There is one other species of *Oxytropis* common on the plains that seems to be harmless. It is distinguished from the Loco by its dark calyx, smaller purple flowers, shorter and weak flower-stalks, and its narrow, cylindrical



ONE-HALF NATURAL SIZE.

9. Spike of Loco Pods,
Oxytropis Lamberti.

10. Spike of Pods of
Oxytropis campestris.

falcate, hooked, taper-pointed, almost smooth pods four times the length of calyx; while the Loco has short, silky, hairy pods twice as long as calyx only—has larger, usually, white flowers, with a purple keel and white or light-colored calyx. The Loco is called *Oxytropis Lamberti* by Dr. GRAY, though it does not fully accord with the description of that plant. It is apparently nearer *O. campestris*, but the latter name is given to the harmless species of *Oxytropis* by the same authority.—MARCUS E. JONES, A. M., *Salt Lake City*.

THE HYACINTH BEAN.—I was disappointed last summer with my *Dolichos Lablab*, called Hyacinth Beans. The first name is kind of hideous, and the Bean part savored more of the kitchen than the flower garden. Not until last season did I venture to plant a seed, and then was agreeably surprised to find my *Lablab* produce beautiful trusses of white and purple flowers, and the stems also of a rich dark purple. I grew plants ten feet in height.—W. S.

THE IRIS.

MR. VICK:—So beautiful a plant as the Iris, and one having so many points in its favor, should be better known. The Orchids, rare, costly, tender and difficult of successful cultivation, are no handsomer than their hardy, easily-cultivated relative, the Iris. No hardy flower gives us such wonderful combinations of beautiful shades and pure colors. Differing as much in habit, form and period of blooming as they do in colors, the varieties of the Iris are sure to be appreciated by lovers of the beautiful. There are several species, some of which have been made to sport into many varieties. The divisions known as English, German and Spanish Iris are, undoubtedly, descendants of the true Spanish Iris, which have been crossed and re-crossed with each other until varieties are numbered by hundreds. Their great diversity is due to the fact that they are not only very sensitive to the fertilizing influence, but they are easily grown. They are all hardy and bloom in May, June and July. Their flowers are on stems from eighteen inches to two feet high, and are large and brilliant and very sweet. The amateur who wishes to raise varieties of the Iris is recommended to obtain collections, for, as no painter can paint them, so, no writer can describe them; consequently the catalogue descriptions are not reliable.



THE IRIS.

The dwarf species, known as *Iris Persica*, also *Iris Pumila*, grow only about six inches high, and may be had in a wide range of shades. They flower in April or May. In England the varieties of these species have been separated into early and late; the latest is known as *Iris Olbiensis*, and bloom in the interval between the Persian and German Iris; and, it is said, that they will flower again in autumn. There are many other beautiful and distinct species, the most of which are unknown to American amateurs. I would mention a few of the best, as follows:

Iris Kämpferi, from Japan. This variety is distinct from all others. The leaves are of a good green color, and spread in a pleasing, fan-like outline; it blooms late, and its flowers, which are flat like those of the single *Clematis*, may be had in both double and single forms, in colors of white, blue, orange, maroon, buff,

flesh and even rose. The plants grow from two to three feet high, and are quite handsome and hardy.

Iris Florentina is also a distinct species, and is probably the most fragrant of the genus. Its flowers are quite handsome in their combinations of white, blue and yellow colors. This is the plant which furnishes the *Orris* root of commerce.

Iris gigantea is a new species that grows six feet high and bears large white flowers. *Iris pallida Dalmatica* is a good companion for it, as it reaches the same height, with flowers of a light azure blue color. This species requires considerable moisture to do its best.

Iris Susiana is becoming quite well known, and yet it will remain a genuine novelty on account of its strange colors and odd markings. It is very handsome, and blooms early. It is generally hardy, though I have heard of its making an early fall growth and being killed by the winter, but this is not often the case.

Iris Iberica.—This is another strange flower. The plant is of dwarf habit, but the flower is gigantic, for it will not go into a quart cup without crowding. The flower is white and brown, blotched with black, though the colors vary in different specimens. It is both early and hardy.

Iris acutiloba is a new species, as yet scarce and dear. It has a handsome, brown flower, striped with pink, and grows about twelve inches high.

Iris tectorum, from Japan, is hardly known to amateurs, but it is a handsome flower in colors of purple and lavender, and is remarkable for its crest of beautiful fringe which rises in the center of each spreading petal. Its habit is both very stately and graceful.

The *Iris* is easily cultivated and grows well in any good garden soil, though, for grand results, it would be best to trench, as they are hearty feeders and well repay any extra care which may be bestowed upon them. All kinds are best planted as early in September as it is possible to get the roots. As a general thing, they do not keep well out of the ground, and if the bed is not ready for them when they arrive, it will be best to cover them with earth until they can be planted.

Most of the species propagate very rapidly by division of the roots, and all produce seed freely, which is sure to ripen; and there is no better way to get a good stock of roots than from seeds saved from a good strain of hybrids. Such seed is sure to break into new varieties, and, while all will be handsome, some of them will be, to use a strong adjective, superlatively grand. The bed for seedlings should be made early in the spring, in some warm, sheltered

place, and after being well prepared, the seeds may be sown three inches apart, in drills that are six inches apart and one inch deep. Cultivate freely during the summer, and, if very dry, water them occasionally; if well grown, they will give their first flowers the following year. In September of the second year, they must be taken up and planted where they are to remain, giving each plant plenty of room.—E. HUFTELEN, *LeRoy, N. Y.*

DODDER

MR. VICK:—Perverse fate or a dispensing Providence set me in this rustic country place a year and a half ago, and I was informed that the various and rather unprecedented combination of surroundings comprised my "estate." So new and strange is this life to me, that I feel like somebody in a story book who has jumped out from between the covers and commenced living out a reality.

"But," inquires the patient florist, "what has this to do with me, or my affair?"

I'll tell you. Having much leisure, and a great love of nature, I wandered about the picturesque parts of the premises frequently during last summer, and found myself loitering oftenest and longest near the cascade where the water from the mill-race falls into the river—Little Miami—and here my attention was finally arrested by the appearance of a strange, beautiful, golden, thread-like growth, which seemed to cling to and cover over some common-looking weeds which grew in large clumps, twelve feet across, at the foot of the bank near the waterfall.

Now before my enthusiasm runs away with my pen, I wish I could inquire if you already know all about this plant; because it is a pity to waste verbal ammunition on an already victorious rival, and finally be told a great deal more than you know yourself about the matter.

But I'll venture to give my experience anyway, for it will not take long to read it.

Well, I watched this thing very curiously; for once or twice in my life I had seen a little of it in out-of-the-way places, and had carried some home with me, with a kind of heart-sickness that I knew of no way of propagating such a rare and beautiful thing. I knew it to be a parasite—a class of plants about which I've always been extravagantly curious—and, what is more, I knew it was an annual, and that its popular name is *Golden Thread*, though, with all my inquiries, I never met with but two persons who knew anything about it.

"Well, now," I thought, "I can study this plant, and I'll find out all about it!" Though, to be sure, I had a great back-set about my

cascade, from a little urchin armed with fishing tackle, who supposed my visits were solely on account of it, and who exclaimed one day:

"Ho, that there ain't a patchin to Niagara!"

After recovering from the shock of this mortifying information, I devoted myself more entirely to my golden winder. The hotter the sun waxed, the faster it grew, until there was one thick, broad mass of interwoven threads, thicker than Grape-vine tendrils, entirely covering the weeds.

The question was, being an annual, how does it propagate itself? The weeds must come first, for on them its life depends. I got down to them, raised up the masses all around the edges,



DODDER PLANT—FLOWER MAGNIFIED.

but could find no connection whatever between the Golden Thread and the earth. There was none. What, then, was its beginning? Some time in August there appeared on the bare, shining stems little clumps of white, star-shaped, waxen-looking blossoms. These matured and left little brown capsules. They looked as tangible as though they had no connection with an ethereal, fairy-like plant that discarded utterly nature's universal green, and absorbed only the gold of the sunshine for its livery. Yes, they looked as though they meant business! Figuratively speaking, I hugged myself, and assured myself that now I should have the secret of the growth of this beautiful American annual parasite!

Well, the seeds ripened—a few of them—little brown ones they were, round and hard. I gathered them over a white cloth lest one should be lost, saying to myself, "They're worth ten dollars apiece!" I laid them away in safety,

feeling worried that we must have such long winters in this climate. But I couldn't wait. One day, while fussing around my pot plants, I got out a half dozen seeds and put them in different pots, just to see if they would germinate. In less than ten days each one had come up, appearing as in the annexed sketch. In a day or two the finer end had withdrawn itself from the soil and straightened entirely up, reaching for something to lay hold of. Soon it reached the lowest twig and wound itself about a time or two very tightly, then thickened and commenced throwing out its vines from that point. When fairly to growing, *Seedling Dodder*, the part between the plant and soil began to wither until it looked like a cobweb and disappeared. They grew equally well on Geraniums, Fuchsias and Multiflora Begonias. But they would catch around the leaf stems and twist them off; so I tore it all away except from one plant. Then I got sorry—everybody who came in got so crazy about it—and so I set the pot near another and trained a "thread across, and lo! I could extend it indefinitely. In a south window it turned almost as golden as in summer. This is all. As far as all this region of country is concerned, this is my secret—its propagation, I mean. I know city ladies and others who would give a great deal for a pot of such a curiosity. Have you got it? Do you want it? Anyway, let me hear from you, please.—MRS. M. B. B., *Sawmill Retreat, near Bellbrook, Ohio.*



The life history of the Dodder plant, so well described by our correspondent, will, we are sure, be welcomed by our readers, but we do not think there will be many applications for the seed. Our farmers are too well acquainted with it. The engraving of the flowers shows them considerably magnified, and make it appear possible, even to those having no knowledge of the fact, that this plant is related botanically to the *Convolvulus*.

FROM THE SCHOOL GROUNDS.

One of our public schools, known as the Drury School, is situated on a hill, just a little out from the noise and bustle of the town, overlooking the churches and some of the finest residences. A commanding view of the town and suburbs, with beautiful scenery of hill and dale and the school of a thousand students, makes it an attractive resort for many people.

The grounds comprise about two acres. Three-quarters of this area is occupied by the buildings and play-ground, and the remainder with the flower garden. The flower garden is separated from the play-ground by a simple wire strung through small posts, about eighteen inches high, at intervals of ten or twelve feet. This affords no protection whatever, but is used as a

boundary line to define the limits of the playground, the disposition to trespass upon the flowers being left entirely to the honor of the pupil. The pupils are told in early spring time by the Superintendent that flowers are cultivated upon the grounds for their pleasure and enjoyment, but not be picked or in any way injured, and the request is respected. It is of rare occurrence that a flower is taken without permission. The pupils admire and appreciate what is done for them in this direction, and manifest a pride and pleasure in the garden that is akin to possession. Who ever saw a child who did not love flowers? In what way can so much pleasure be received from so small an outlay of expense as in the cultivation of flowers in public places, where one and all, high and low, rich and poor, are ever at liberty to enjoy their beauty and fragrance without stint or grudge! We think the cultivation of flowers upon the school ground does much more than merely please the eye or gratify the taste. It has a refining, cultivating influence upon the mind of the pupil, directing his attention to the study of plants, their structure, growth and habits, and stimulates a desire of the study of botany. We wish for this reason, if for no other, that every school had its flower garden.

But to tell you of our success was the intention when we commenced. We had a fine collection of flowers, including the choicest varieties of Geraniums, Heliotropes, Gladioli, Tuberoses, Verbenas, Pansies, Asters, Balsams and Tea Roses, besides many others, which we cultivated with the best results.

Our garden received the second premium of the county at the agricultural fair; the first premium on Gladioli, and the second on Pansies. Such elegant varieties of Gladioli as you sent us! Nothing could be finer.

We tried our skill at a foliage bed. The bed was circular, twelve feet in diameter; Castor Bean plant in the center, and filled up with Sunrise Amaranthus, Perilla and Centaureas. We had designed to have Cannas and Caladiums in this place, but lost the bulbs and so substituted these. The Perilla, with its dark, deep-fringed, chocolate-colored leaves, contrasting with the white, silvery Centaureas on one side, and the scarlet-crowned, tri-colored leaves of the Sunrise Amaranthus on the other, makes as elegant and showy a bed as one could desire. Our school-boys called this "the boss foliage bed of the town," and so pleased were we ourselves with it that we have decided to make greater efforts for a fine display the coming season. After a two years' trial in cultivating the Sunrise Amaranthus, we have found the secret of success, which is this: high and even tempera-

ture, with moisture. With this treatment we find the seeds germinate readily. We had excellent success. We grew them under glass until large enough to pot, then kept them in pots till the weather was settled and warm enough to plant in the open ground, which we did, away from all shade. The plants grew rapidly, in perfect symmetry of form, producing beautiful scarlet crowns, surrounded by leaves of three colors, green, yellow and maroon. The seeds ripened, and now we have them already up and promising well.

We hope that some of the readers of the MAGAZINE may be interested in this article, as showing what may be done in the way of cultivating flowers in public school grounds, and will be induced to go and do likewise.—T. H., North Adams, Mass.

THE ESCHSCHOLTZIA.

MR. EDITOR:—I presume you have seen the Eschscholtzia in California, and, if so, you can appreciate the beauty of this flower, for you have seen it in all its glory, acres without number, broad fields turned to gold. I never realized



its beauty till I saw it in its home. When returning from the Yosemite, the stage stopped to change horses in the mountains, somewhere between a mountain inn kept by a Mrs. HODGIN and a place called Garrotee. Taking a little walk to occupy the time during the delay, I passed a cottage with the doors and windows open, and observed the walls decorated with fairly executed water-color drawings of California flowers; among them, the Calochortus and Eschscholtzia. The lady of the house informed me that she was a native of Western New York, and that her sole recreation was in botanizing and painting the wild flowers of the country. I was pleased to have an opportunity to bring away one of these drawings of the kind

lady, and I send it to you as a faithful drawing of this flower, better than I have seen elsewhere. An attempt at painting the Snow Plant was less successful. Indeed, I never saw a decent drawing or painting of this curious and beautiful plant.—SIERRA, *Louisville, Ky.*

Well do we remember the little cottage and the water-color drawings of the kind lady in the mountains, though not fortunate enough to obtain one; nor shall we ever forget the basket of apples presented to us and our fellow travelers, that were so deliciously refreshing, after a long half-day's travel over the dry and dusty roads. We also found an artist, Mr. WILE, now in charge of the Art Department of Ingham University, sketching in the mountains, who engaged to make an oil painting of the Snow Plant, and executed the work in an admirable manner.

CULTURE OF SAGE.

Having been very successful in the culture of Sage, I have many applications for information, and most people think it a very difficult thing to do, while it is very simple indeed. I thought, therefore, a little information on the subject would be of value to your readers, and if I can make any return for the many good things I have learned from your MAGAZINE, I shall be highly pleased. The kind I use is what is known as the Broad-leaved English, as this gives a broader and a heavier leaf than some other kinds I have tried, though a good deal depends upon culture. I like a rich, light soil for Sage. It will grow freely from cuttings,



but plants come so freely from seed it is not worth the trouble of handling cuttings. If I have hot-bed convenience, I sow the seed early, say, after I have taken off a crop of early Radishes, and get plants ready to set out about the last of May, about a foot apart in the rows, and the rows eighteen or twenty inches apart. Sometimes early in April I sow the seed in the field, in drills, and when the plants are an inch or two in height, thin them out, transplanting the surplus plants, if I think I need them. I have then only to keep the plants cultivated until the time to commence to gather the crop. Any flowering branches that appear must be at once removed, or they will weaken the plant and lessen the size of the leaves.

I treat Sage in two ways, as I have what I call a permanent plantation. I gather from this by partially pruning off the branches, and picking off the leaves. Then I make another plantation every year, by growing the seed, as pre-

viously described, and when the plant is at its greatest vigor, a foot or more in height, cut the plants off near the ground. The new plants have the largest leaves, but are not as pungent as those from older plants, and contain more moisture. I send you a plant cut in this way, but I do not usually take them so young. For family use, three or four plants in the garden will give all the Sage needed, and the plants will keep sound for many years.—GARDENER.

THE GREGG RASPBERRY.

This new and remarkable variety of the Black Raspberry, doubtless by far the most popular and best for market, culinary, canning and dry-



ing purposes in existence, originated about four miles from this place, south of the city, on the GREGG farm. It was found during its fruiting season in, 1865 or 1866, and removed by Messrs. R. and I. GREGG to a piece of ground prepared for its reception, in the corner of one of their fields, near their residence. The first clusters of fruit produced under cultivation were greatly admired for their beauty, large berries and enormous sized clusters, and pronounced by all who saw them to be a new and remarkable variety. It was named the Gregg in honor of the person who had saved it from nature's waste basket. This Berry, before being introduced to the public, in the fall of 1876, when plants were first disposed of for cultivation, had received a most thorough and searching test at home. Its managers, the Messrs. GREGG, after several

years' cultivation, in July, 1872, sent clusters of fruit to the Clark and Floyd Horticultural Society, where it met with almost unbounded favor. The action of the society was printed in the *Indiana Farmer* at the time. They next brought it to the notice of the Indiana State Horticultural Society, in 1873, and in its published reports it received great commendation. In July, 1875, they placed it on the tables of the Cincinnati Horticultural Society, when it was unanimously pronounced the best Black Raspberry ever exhibited before the society. In 1876, they expressed several shipments to the Centennial Exposition, a distance of about seven hundred miles. They were received and exhibited in as good condition as when taken from the field. Here it received its introduction to general cultivation. I write this sketch of its origin, the circumstance of its name, first cultivation and introduction, to correct some greatly mistaken accounts of it that have crept into print.—JOHN WALKER, *Aurora, Ind.*

BASKET PLANTS.

Among the many plants desirable for baskets, I know of none better than two I wish to call to the notice of your readers. One I know has been frequently spoken of in this connection, but the other I do not remember ever seeing recommended for this purpose in your MAGAZINE, or in any other journal. I refer to the Nolano. The flower is something like that of the *Convolvulus*, but being more firm. The stems are somewhat transparent, or succulent, like those of the *Portulaca*, while the leaves are broad, like the *Petunia* leaf, but succulent and fleshy, and of a light green, often covered with a whitish bloom. It needs just the kind of treatment as the *Portulaca*, and will bear heat and drouth about as well. It is therefore peculiarly adapted to baskets and vases, where ordinary plants are so apt to suffer for water. I



THE NOLANO.

understand that the plant is a native of South America, and this accounts for its endurance of great heat and dryness without injury.

The other plant to which I refer is the *Thunbergia*. Of this I need say but little, because its praises have been frequently spoken. It is, however, most admirable for baskets, its clim-



THUNBERGIA.

ing or drooping habit, its pretty leaves, and, above all, is delicate white or buff flowers, with great dark eyes, altogether make it one of our very best basket plants.—ELLEN W. S.

EPIGÆA

Epigæa, Trailing Arbutus, May Flower, Ground Laurel. This flower is known by these various names in different sections of our country. The plant is supposed to be indigenous to North America, and refuses to be nurtured, preferring the wild fastnesses of nature. It abounds in luxurance in this lake region, and also in Plymouth, Mass., where it was the first flower that gladdened the Pilgrim Fathers in their new home. It is still gathered there in great beauty, and large supplies are sent to the Boston market, where it is sold in small bunches during its season, which lasts from ten days to a fortnight.

Your correspondent, Mrs. H., Albany; will not find it easy to bring *Epigæa* to perfection in a city. It needs the soil which the woods afford for its nourishment, and it grows best where Pine trees flourish. Its delicate fragrance and lovely tints make it a favorite with all lovers of nature. The stems are so tough that we fear among the many gatherers some thoughtlessly pull up root and branch, and thus destroy the plant, which is of slow growth. Its extermination would be a great loss, and we hope all may heed the warning, and take flowers without disturbing the parent root.

Fain would my muse the May Flower's beauties sing,
The earliest herald of the smiling spring!

—A. B. S., *Canandaigua, N. Y.*



CELERY CULTURE.

Celery delights in moist marshy land and a humid if somewhat impure air, and it succeeds well in the neighborhood of towns. I make my first sowing of the variety Sandringham White at the end of February in a pan or box, employing any light rich soil, and placing the boxes in a warm pit. The plants as soon as large enough are pricked off into other boxes, to be again pricked out into the open ground when weather permits. For the main crop I prefer the variety Sulham Prize Pink, which I sow two or three weeks later, and in less heat, my plan being to place a small frame on some well-spent dung, which will produce a little heat and then decline. Outdoor sowing does not succeed here, although I have raised some sturdy plants in a small turf pit, with an old window sash placed over it. I prefer to sow rather late, as there is less chance of the plants "bolting," and they can be grown on as vigorously as possible—an important point, for Celery plants must never be checked. I saw a large bed of plants last year which were rendered completely useless through insufficient supplies of water. Where those plants had a gallon of water they required a barrel. It should be remembered that Celery is a marsh plant, and that there is great evaporation from its foliage during hot or dry weather. A good plan is to prick out Celery plants in a bed formed a little below the surface and near to a pond or tank, so that abundant supplies of water can be readily obtained.

At planting-out time a good supply of well-decayed manure is required. In some gardens plenty of manure can be obtained in winter, none in summer; in others, in summer only. But if I can obtain the manure in winter, I dig the trenches and place it in at once. This plan offers the following advantages: The labor is done at a comparatively quiet time; the manure receives plenty of moisture naturally and retains it, instead of being exposed during the process of placing it in the trenches to a hot June sun; lastly, a crop can be grown between the trenches, and the Celery may be planted at

any time irrespective of the standing crop. I believe it to be a disadvantage, if not a positive evil, to plant far below the surface; three or four inches is in my opinion sufficient. If very deep the plants are deprived of air for some time; and in winter the excessive wet, which should have drained from them, is retained, rendering them more liable to be destroyed by frost.

Single lines of Celery I find occupy too much ground to suit my requirements; so, with the exception of an early row, I plant in beds. This system has other advantages besides that of obtaining an extra quantity from the same plot of land. The individual plants are not so much exposed, and the labor of earthing-up is considerably reduced. A greater depth of manure is required for a bed than a single row, but not so much of either as for the same number of plants placed in single lines. The beds are four feet six inches wide, and the plants are eight or nine inches apart in rows, across the beds fifteen inches asunder. I make a gauge for this purpose fifteen inches by four feet with the distance from plant to plant marked in pencil, so that the men in planting have but to place the gauge against the last row and plant opposite the pencil marks. The plants are then straight both ways.

I seldom earth-up any, except the early plants, until October, as Celery does not grow so well after it is earthed, and no water can be applied. To keep the plants together and encourage the heart I tie them rather loosely with bast. Two boards the same width as the beds are employed while placing the first lot of earth. These are laid across the beds against the plants; the soil is filed in between the boards, which are afterwards drawn out; the soil is pressed around the plants, and so on until the bed is completed. I also obtain as much coal ashes as possible for this purpose, and it keeps away worms and blanches the Celery better than soil, besides rendering the plants less liable to injury by frost.

During the two last severe winters frost has in many cases injured Celery very much, but I

have had very little loss in this respect, and I attribute my good fortune to three causes. First, that of planting somewhat shallow, so that when the plants are earthed the trench is well below the roots, thus securing good drainage. Secondly, to the free use of ashes; and thirdly, to planting in beds; for when the beds are banked up there is a mass of soil from six to eight feet wide, as I earth a full foot on each side beyond the plants. Litter of any kind strewn over the top is a good protection, but that I am unable to procure for even a small quantity, and as I usually grow about four thousand plants, it is quite out of the question for me to cover them; but by adopting the methods I have stated my Celery has survived the severe weather.—R. CATT, in *Journal of Horticulture*.

FRUIT TREES IN PLEASURE GROUNDS.

We have in mind several places in this country where fruit trees have been introduced in the ornamental grounds with the very best effect, and have no hesitation in saying that when skillfully done, instead of being to any extent detrimental, they greatly enhance the beauty of the plantation. We would not, however, have it supposed that this can be done by anybody or in anyway; it requires skill that can only be acquired by one of good judgment after much experience. When so performed, we can most heartily endorse the following communication to *The Garden* of London: "I consider that fruit trees have some claim to be considered ornamental. In Germany, where flowering trees and shrubs are held in higher estimation, and are more extensively planted than in this country, the line between the fruit garden and pleasure ground is not as a rule so closely drawn as it is the custom to do in England. There one often sees fruit trees intermixed with ordinary trees and shrubs, and I consider that this form of arrangement has much to recommend it. In the first place, the rather cheerless aspect which shrubberies so often present during the early months of the year is much relieved thereby; and then, again, trees thus placed often yield a portion of fruit when those in more exposed situations have been chilled by cutting winds or sharp frosts. I have frequently remarked that an Apple or Pear tree which by chance has found a place in the shrubbery, has produced fruit when those plantations most relied on have, owing to the inclemency of the season, completely failed. There are probably few more beautiful floral objects than an orchard in full bloom, and few flowering trees or shrubs can rival the Apple or the Pear when loaded with their showy flowers. When so planted that they are in the near proximity of ever-

greens, especially such as are distinguished by the sombre hue of their foliage, the effect is very beautiful. I have had the good fortune to reside in some of the finest fruit-growing districts in Europe, and have often thought that nothing could exceed in peaceful beauty the aspect of the Rhein-Thal and Neckar valley during the flowering season of the fruit trees. I have a vivid recollection of once standing upon an eminence in the vicinity of the Vosges Mountains, from whence seventeen villages could be counted, each one embowered in fruit trees, and lying snugly in valleys surrounded by hills, clothed with lines of sombre hue, the whole forming a scene worthy of the most gifted painter's brush. The valley of the Neckar is also extremely beautiful during the month of May, studded with little hamlets, nestling in the shelter of the hills, and surrounded with fruit trees of fine proportions, thus forming a series of delightful floral pictures, of which the eye never seems to weary. In the palace gardens of Ludwigsburg there are whole avenues of fruit trees, which, so far from appearing misplaced, rather seem to add to the attraction of the place. It is certain that there are many situations in gardens in this country, such as in the wild garden, the shrubbery, or the half-annexed portion of the pleasure ground, where a few fruit trees might be introduced with pleasure and profit to the owner. There are, of course, some varieties which by their vigor and manner of their growth are better fitted than others for the purpose, and only such should be planted."

TROPÆOLUMS AS BEDDING PLANTS.

A writer in a late number of *The Gardeners' Chronicle* gives *Tropæolum* minus a good character for its behavior last summer during the continuous wet weather in England. He says: "The utility of having a sprinkling of showy flowering plants propagated for bedding purposes was strongly exemplified last year when the continuous rainfall was so great that flowers of tender fabric were no sooner open than they were partially drowned out by a sudden down-pour of wet. Among some of the flowering plants that I noticed to be weather-proof were scarlet *Tropæolums*. The variety was evidently raised from seed, and was named Tom Thumb. The leaves were of a glossy dark color, and the flowers, which were thrown up well above the leaves, were of a bright warm scarlet. The habit of the plant is everything that could be desired, being a stiff, erect little bush, which seemed to revel in wet. The plants were relegated to an obscure position, but their attractive appearance after each succeeding deluge of wet so called my attention to their usefulness that I

resolved to raise a stock from cuttings, which shall have a prominent place in the flower garden this year. When we remember what a brilliant bed can be made of these lovely flowers, that are so simple to cultivate, with an edging of *Koniga maritima variegata*, still one of the showiest of dwarf edging plants, perhaps the reminder may be of service to some of your readers."

FORGET-ME-NOT.

Notwithstanding all the modern improvements effected in nomenclature and classification, there are old homely names too dear to our youth to be forgotten, on account of their associations, and none more so than the darling blue Forget-me-not, the scientific name of which is *Myosotis*. The Forget-me-not, notwithstanding its diminutive size, stands high in sentiment. Planted on



the grave of a departed friend, it tells its tale of mourning with its living motto. Moreover, it embodies in its still life a "thing of beauty and a joy forever," and we learn to mitigate our sorrow in the blessed hope of what is yet to come. Though dark and dim, as through a glass, are God and truth beheld, yet it is only through this darkness that we behold "the worlds of light we could not see by day." There are lessons to be learnt from the remembrance of departed friends that fall as avalanches—"words of truth and soberness," and there are very few, indeed, who have not felt the weight of at least one such Forget-me-not.—A. F., in *The Florist and Pomologist*.

PARIS SCHOOL OF HORTICULTURE.

The Jardin de la Ville is the site chosen by the Municipal Council of Paris for the establishment of a School of Horticulture. The following general regulations indicate the aim it has in view: 1. The culture, propagation and acclimatisation of every species of plant used in manufactures, domestic economy, medicine, &c. 2. The culture of all plants and shrubs required for the ornamentation of the promenades, avenues and squares in Paris. 3. Specimens of all the plants cultivated in the school garden shall

be preserved in a herbarium. To each specimen shall be affixed—the name of the genus and species; the names of the varieties and sub-varieties which may have been produced from it. 4. Collections shall be kept, in a museum attached to the garden, of all vegetable produce, such as textile fibres, matters for dyeing of vegetable origin, gums, resins, &c. 5. Every year there shall be a public exhibition. 6. There shall be classes for the teaching of practical botany; and the pupils, after a certain time, may ask to undergo an examination, after which they may receive a diploma. 7. The garden, the museum attached, and the classes will be open to the public free. The garden and herbarium will be open to all desirous of studying living plants or specimens. 8. Boys attending the municipal schools shall be taken by their masters on certain days to the garden and museum, where practical lessons shall be given them by the professors and assistants.—*The Garden*.

CALOPOGON PULCHELLUS.

This hardy bog-plant, growing in many sections in the northern part of this country, has received no attention at the hands of our cultivators. Evidently its merits are deserving. In our last volume an illustration of it was given, accompanied by a description by a correspondent. A writer in *Journal of Horticulture* says: "This is one of the prettiest of introduced North American hardy Orchids. Near London it is perfectly hardy either grown in pots or planted in well-drained shady positions. It has a very small pseudo-bulb usually about the size of a horse bean, from which a few grass-like leaves are sent up, and a slender flower stem from six to twelve inches high, bearing three or more flowers of a beautiful rosy purple color, with a curious little crested lip; the flowers are about one and a-half inches across. It delights in peat and sand, but is not readily increased. It is a very interesting plant as showing the normal structure of Orchids, as the lip is pointing upwards instead of downwards, which is the result of the twisting in the ovary."

GROWING OLD CHRYSANTHEMUMS.—If you shake the plants out of the pots now and repot them in fresh compost after removing all but five or six suckers, you may grow "large bushes" by the autumn, but the blooms will not be nearly so fine as those produced by young plants. The growths may be stopped as required until June, and the plants will need liquid manure after the pots are filled with roots. You had better grow a few young plants also in case the old do not succeed as well as you anticipate.—*Journal of Horticulture*.



PLEASANT GOSSIP.

SUMMER TREATMENT OF HOUSE PLANTS.

MR. JAMES VICK:—I am encouraged by the many letters of inquiry I see in your pleasant MAGAZINE, and by the willingness you always show to give the instruction asked for, to lay my own difficulties before you. I do not suppose they are peculiar to myself, and many of your readers will doubtless welcome with me any advice you may give. I am very fond of flowers, though I attempt only the cultivation of the common, hardy favorites, Geraniums, Carnations, Abutilons, pink and white Begonias, Fuchsias, hardy Ferns; sometimes Ivy, a Passion Flower, or a Campsidium. These I manage to keep in tolerable condition through the winter, in spite of the inevitable disadvantages of parlor culture. My troubles begin with the warm weather. During all the hot season the house must be kept so much darkened, and the outer air so much excluded, that plant life would be impossible. The pets must go out of doors, and their summer treatment is to me a perplexing problem. Geraniums can be turned into the flower beds, and will bloom during the summer, but after that, can the old plants be taken up and repotted for another winter, or will they be useless, except to furnish slips, and, if so, when should the slips be started? Is a Geranium, three or four years old, ever good for anything as a flowering plant? I know by experience that my Carnations, which have flowered during the winter, will not produce blooms enough in summer to be worth the room they occupy in the beds, but can they be taken up in the autumn and potted for winter blooming, or should they be layered in the spring and the parent plant thrown away when the young ones are rooted?

Last spring I had two beautiful young plants of Abutilon. I took them out of the pots and put them in the beds. They grew large and straggling, but did not flower; pined after being taken up in the autumn, and though the foliage recovered, I have had no blossoms. The Begonias fared even worse. It is true, they bloomed beautifully after being sunk in the earth in their pots, but long before autumn their leaves grew sickly, pale and yellowish, and so they have remained ever since, though, when brought indoors, I gave them fresh earth. The Fuchsias, which had not bloomed in winter, turned out of their pots into the beds, had many flowers, but since their return to the house last autumn, have shown neither blossoms nor fresh leaves. The Azaleas, sunk in their pots in a shady place, looked healthy enough during the summer, but in their winter quarters have never been free from yellow and dropping leaves, and the blossoms now appearing are scanty and confined to the outer boughs. Vines are even more perplexing. Even if they can be detached from their winter supports in the house, and sunk out of doors, they will generally there make growth enough to cover a trellis too large for removal and from which they cannot be separated. It is true that last summer my Campsidium was so beautiful that I insisted on having it brought into the house, trellis and all, at a cost of much trouble and inconveni-

ence. I have been rewarded by about five feet of ugly, bare stems, and a great straggling growth at the top of the trellis, four feet higher, where it cannot be trained, and is quite without beauty. I have almost come to the conclusion that, with the exception perhaps of Azaleas and Callas, there is no use in trying to preserve plants for a second winter, and that the only way, unless you can buy a fresh stock every autumn, is to turn your attention during the summer to propagating young plants for yourself, from your old ones. But the necessary corollary of this would be never to have a plant in full size and perfection. Besides which, the difficulties of propagation are in most cases too great for mere amateur florist, without any special facilities. I have some hope of obtaining from you another and a better solution of the difficulty.—Mrs. D. R. E., Arlington, Mass.

Very probably many of our readers are as much puzzled and perplexed in the care of their plants as the writer of the above. Many of the disappointments in amateur plant culture arise from a misunderstanding of the wants and capacities of plants. Most of them require seasons of growth, and these are terminated by periods of blooming, after which repose is necessary. We may not expect a continuous blooming, winter and summer. As a rule, the plants that have passed the winter in the window should be turned out of their pots into the garden borders as soon as all danger from frost has passed in the spring. It is not desirable, on any account to keep them in the house. In the summer, the open air is the grand plant house. Not only may Geraniums, as mentioned, be turned out, but almost everything else. If the Geranium plants are wanted for winter-blooming again, it is well not to allow them to flower much during the summer. For this reason, we would not place them in the flower beds, where a profusion of bloom would be expected and encouraged; they should rather have a retired place, where they would not be desired for show. During their growth in the summer, the extremities of the shoots may be pinched in, to give them a proper form, and only a small portion of the flower buds that are produced should be allowed to bloom—the others should be removed. The result in autumn will be handsomely-formed and vigorous plants, ready for blooming during the winter. Young plants of

Geraniums for winter-flowering should be grown from cuttings taken off in the spring, and grown on during the summer and autumn. As for Carnations that are spoken of, they should be planted out and layered, and the young plants grown up for winter flowering. In the case of Begonias, the mistake was made of keeping the plants in the pots which were sunk in the ground. If the plants had been turned out, the foliage would have become healthier and finer, rather than growing "sickly, pale and yellowish."

The young plants of Abutilon are mentioned as growing tall and straggling. Strange, that nature is so perverse! Why could they not have grown into compact, symmetrical little shrubs? They acted like children that had got away from under restraint, and were determined to do as they pleased. "Train up a child in the way he should go," is not more important advice to the parent, than train up a plant while it is growing is to the plant cultivator, if he would have it to please him at maturity. Stopping the growing shoots by pinching off the soft points, will cause new branches to shoot out, and, in this way, one can make a plant almost to his mind. Unless we give attention to training, we must be satisfied to take the plants as nature leaves them.

In the fall, those plants that are to be taken to the house to serve as window plants for the winter, should be looked after before the season arrives for their removal. If, with a sharp spade, each plant is cut around, so as to leave a ball of earth the right size for the pot, and then allowed to remain two or three weeks, young fibrous roots will form; when the plant, with the ball of earth attached, is lifted, it will scarcely experience any check.

Many plants that are perennial, even, are not worth the care necessary to keep them more than a year or two, as their vigor is to a great extent expended after the first blooming; a very common example of such plants is the Chinese Primrose, which is always best the first year from seed. Chrysanthemums, too, we do not keep over the second year, but always raise a stock of young plants from cuttings. It is a great mistake that many people make in trying to keep along a great many old plants. When a plant has lost its vigor, give it up and start again. We may not have fully answered our inquirer, but hope some of our suggestions may be acceptable.

GYPHOPHILA.—A correspondent says: "Gypsophila makes a beautiful hanging-basket plant for winter, by watering freely. Mine has been beautiful, trailing all around the pot and covering it up, and has been full of flowers."

AN AMATEUR'S QUERIES.

MR. VICK:—1. What is the proper way to prepare leaf-mold?

2. Would the scaly portions of White Oak (young growth) bark, well-rotted, answer, in place of leaf-mold?

3. I have read that "Cocoa fiber refuse" is an excellent substitute for peat. What preparation does it require before suitable for use?

4. What treatment do *Calceolaria* and *Cineraria* require in winter?

5. Does the *Camellia* want to be plunged or set on top the ground in summer?

6. Is it best to take the *Gloxinia* bulb out of the pot to preserve over winter?

7. Is there a difference in favor of peat as compared with leaf-mold for some varieties of plants?

8. In this climate, would a south location, or one a little to the southeast, be the best for a cold-pit. Thermometer usually ranges 10° to 20° for low temperature, and we scarcely ever have a winter that it reaches zero, which lasts but three or four days at a time. The location in either case is against a building.—BEGINNER, *Silverton, Oregon*.

1. We know of no preparation necessary for leaf-mold; it is fit for potting purposes when taken from the woods, or wherever it has formed.

2. Thoroughly decayed wood is essentially the same as leaf-mold.

3. Cocoa fibre is used, when it is to be had plentifully, as a plunging and mulching material, but not to any great extent as a component of soils.

4. An ordinary greenhouse temperature is best for both of these plants, with a moist atmosphere. Attention to the destruction of green-fly as soon as it makes its appearance is very necessary. If allowed to increase, it speedily disfigures and destroys the plants. Prompt fumigation is the remedy when very carefully performed, but as the foliage is very susceptible to injury from the Tobacco smoke, it is necessary to be given lightly and often. Another efficient and unobjectionable method is to keep on hand a supply of dilute Tobacco-water, and to dip the plants into the liquid as soon as any insects are seen on them.

5. *Camellias* standing in the shade in summer are more easily cared for, if the pots are plunged in the ground.

6. *Gloxinia* bulbs are best preserved over winter by storing in dry sand, in a temperature of 50°.

7. A few kinds of plants, and a few only, show a decided partiality for peat; these are principally Ericaceous plants—Heaths, *Kalmias*, *Rhododendrons*, *Azaleas*, &c., and also the *Camellia*, and some others.

8. A house standing north and south, as a rule, is in the best position; but whether a direct north and south line is varied from, either to the west or the east, a few degrees, probably makes but little, if any, difference.

YELLOW JESSAMINE.

MR. VICK :—I received some specimens of the native Jessamine from Jacksonville, Florida, a few days since, and sent them to you by to-day's mail. Their color is badly faded, but perhaps you can analyze them, and your readers might like to become acquainted with one of the greatest flowers of the woods of the south. The plant is found from Florida to Virginia, and everywhere is a great favorite with the lovers of nature. The flowers are deep yellow and very fragrant, retaining their aroma for a long time if carefully gathered and dried. The plant resembles *Epigæa* in loving its own habitation, and refuses to be nurtured, all attempts to cultivate it in greenhouses having failed, both here and in England. It grows on a woody vine, and during its season of bloom, which in Virginia is May, resembles a rich bank of gold, and the air is laden with its spicy fragrance for quite a distance. The vine is an evergreen, and the brightness of its glossy foliage is very marked in winter. The flowers are cup-shaped and nearly an inch across the corolla. I searched in *Gray's Botany* for description, but failed. Perhaps you can enlighten us.

"And 'tis my faith that every flower,
Enjoys the air it breathes."

—A. B. S., *Canandaigua, N. Y.*

From the small specimen received, in a condition very much shattered, we have made an illustration that fairly represents it, but which,



we are very well aware, gives but little idea of the richness and beauty of this so-called Yellow Jessamine seen in its native haunts. This plant, although it bears the name, is not a Jessamine, or *Jasminum*, but is properly known as *Gelsemium sempervirens*; as such it is described in *Gray's Manual* and *School and Field Book*.

OFFSETS OF CALLA ÆTHIOPICA.

MR. VICK :—Will you please tell me whether it is better to remove the young off-shoots from Callas, or to let them remain in the same pot with the old plant?—MRS. E. C. J., *Michigan City, Ind.*

When the plants are repotted in the fall, the offsets may be all removed, and propagated, if desired.

VERONICA.

MR. JAMES VICK :—I have been much instructed and pleased with the *FLOWER AND VEGETABLE GARDEN* which I procured some time since. You have succeeded in putting a great deal of information in a small space.

I am quite satisfied that you are a man who wants everything as correct as possible. Having this opinion, you will allow me to make a slight correction in your pronouncing vocabulary, on page 54, under the head, *Veronica*. You say the derivation of the word is unknown. You have forgotten your readings of ecclesiastical history and traditions. It is told as a pretty legend that when our blessed Saviour was fainting under the weight of His cross on the way to Calvary, a woman in the crowd, out of the pity of her heart, wiped his face with a napkin, and the impress of the face of the Divine Man was stamped upon the cloth. *Veronica* is *vera*, Latin, true, and *iconica*, a derivative from *icon*, Greek, image or likeness, contracted into *Veronica*, true likeness. The name *Veronica* is often given to the woman who did the charitable act; often to the napkin, which is preserved in St. Peter's Church at Rome, so devout Roman Catholics think. It is also said by some that the impress on the napkin was made when our Lord was buried, and that this is the napkin which was bound about His face.

However you are please to take it, either as the name of the woman, or of the napkin itself, the etymology of the word is, doubtless, "true likeness," as above.—REV. JAMES E. HALL, *Whitehall, N. Y.*

Thanking our friend for his kindly interest and his pleasant narration of this legend, we would say that this derivation of the name, *Veronica*, as used botanically, has often been suggested, but there is no apparent nor any known reason for its application.

THE AQUILEGIA FROM SEED.

MR. VICK :—Will you give directions for raising the *Aquilegia*, as we are very anxious to have some?—MRS. J. W. P., *Johnsburg, N. Y.*

There is no difficulty in raising the *Aquilegia* from seed, with proper care, and this care is very little. Any ordinarily good soil will answer, but if the weather should be warm, with a bright sun, it will be necessary to shade the ground and maintain in it a gentle moisture, and not at any time allow it to become dry. Seeds of what are considered hardy varieties of plants are often sown in the open ground, and then left to themselves without further attention; if they germinate, all well—if not, why, the seeds are to blame, and so is the seedsman. A little attention to preparation of soil, to choice of location, to shading and watering, will often make the difference between success and failure.

When the young plants of *Aquilegia* are two or three weeks old, they may be transplanted from the seed-bed into a piece of good rich ground. Here they should be well cultivated, and kept supplied with water, so as to make a vigorous growth the whole season, and they will then be prepared for blooming the next spring.

THE SNOW-DROP.

MR. EDITOR:—I think, among the many gorgeous flowers, the pretty little Snow-drop is too much neglected. It certainly is not showy, but coming so early, when we have no other flowers, except the Crocuses, it claims my admiration, at least. I thought that, perhaps, if you called attention to this interesting little flower, now that it is in bloom, some persons might seek their neighbor's gardens, and make up their minds to obtain it in the autumn for themselves, especially if you gave some instructions.—E. J. K.

The first flower of spring is the delicate Snow-drop, white as snow. Its appearance, about the first of March, is a joyful surprise. The bulbs are quite small; the leaves and flowers about six inches in height. Plant in the fall, in beds or masses of a dozen or more,



about two inches apart, and about the same depth. They are very desirable for growing in pots in the house in winter. A dozen may be planted in quite a small pot or saucer. A few planted on the lawn produce a fine effect early in the spring, and mowing will not destroy the bulbs, for the leaves will ripen so early that they will be pretty well matured before the grass will need cutting. Perfectly hardy, the bulbs can remain several years in the ground without removal, when they can be taken up, during the summer, and replanted. When out of the ground, keep them in dry sand.

The Snow-flake, *Leucojum*, is sometimes called the Large Snow-drop, from its resemblance to this delicate flower. It is much larger, and more robust in habit. Flowers white, with bright green spots. Once planted it manages to take care of itself. This does not flower until later in the season, and it will flower well in the house.

EUCHARIS AMAZONICA.

MR. VICK:—Will you be kind enough to tell me in the MAGAZINE how to have a *Eucharis Amazonica* bloom. I have had one for four years and never had a flower. The past season I treated it to a good drying out, then transplanted it into new, rich leaf-mold. Early in the fall I put it over the heat in my greenhouse, where it has never been less than 50°, and most of the time 70°. It has grown beautifully. I gave it an abundance of water, and have watched it anxiously, but no blooms have made their appearance. But for the beauty of the foliage I would cast it away.—MRS. S. A. K., *Keosauqua, Iowa*.

A lady friend, who has a fine greenhouse, has had a number of *Eucharis Amazonica* plants for several years and has never succeeded in making them bloom. She has been advised that they should bloom as readily as a Hyacinth. One of our greenhouse men also had them for several years, and has never succeeded in obtaining a flower until this winter. Will you please advise what course of cultivation is necessary to ensure success with this plant.—B., *Lockport, N. Y.*

In the culture of *Eucharis Amazonica*, it is necessary to observe that the seasons of growth, of rest and of blooming follow each other successively, and these seasons are very distinct and imperatively demanded by the plant. The heat required by this plant forbids its cultivation with ordinary greenhouse plants, and without a place adapted to its wants, one should not expect any satisfactory results. Supposing we had some roots to start into growth; we will commence about the first of April and pot them in six-inch pots in good loamy soil, with enough sand to keep it sweet. Give a watering, and place the plants in a temperature of 75° to 80°, dropping at night 5° or 10°. Allow air sufficient to prevent them from becoming drawn, and attend carefully to watering. By the middle or last of July, the plants begin to throw up side-shoots, when they may be put into pots a size larger, and then grown along as before until about the last of November. At this time a season of rest should be commenced by withholding water until the leaves droop slightly. Do not allow the plants to become too dry; give a little water, but not enough to saturate the soil. During this season the temperature at night should not exceed 60°, nor in daytime 6° or 8° higher. In this manner the plants can be kept for a couple of months. About the first of February, with lengthening days and brighter skies, the treatment for the blooming season may begin. Soak the roots well and increase the temperature to 75° or 80°, and do not allow them to lack for water. In a short time they will throw up flower-stems and commence to bloom.

When the flowering is passed, the flower-stems should be cut out, and the plants given pots of a larger size. Maintain a temperature of about 75°, and, with attention to air, a strong,

healthy growth will ensue. This treatment is to be kept up, as before, during the summer and autumn, and then the plants rested again, as has been described, preparatory for another season of bloom.

To produce *Eucharis Amazonica* in perfection, it should have a house specially devoted to it and some other plants requiring similar treatment.

OREGON LILY.

MR. VICK:—I send you a Lily bulb. I do not know any name for it. I have sent to my lady friends in the States, and they cannot succeed with it. I do not think it will bear any cultivating, or at least, it does not here. I have two growing, and I do not do anything, except to pull the weeds from them, and I have to be careful not



to touch them, or they will blast. The stalks generally grow from three to four feet in height, and have from fifteen to twenty-five flowers on them, and are very fragrant.—SARAH PARKS, *Murphy, Oregon*.

The Lily bulb received with the above note is, we think, the Washington. It has a curiously-formed, scaly bulb, increasing mainly from one end, we judge, until it sometimes reaches six or eight inches in length, and even more than this.



The flower is a delicate creamy white when it first opens, but the second or third day puts on a delicate rosy dress, and grows darker every

day. We have tried these Lilies under different circumstances, and must say that, though fragrant, delicate and beautiful, they are somewhat unreliable. They do not seem to like civilization. The bulb and the flower are illustrated.

BEAUTY AND USEFULNESS.

MR. EDITOR:—Some years ago, in one of your journals, you recommended the *Martynia* as a plant both beautiful and useful, and so I have found it for some seven or eight years that I have cultivated it. I would not put it in a conspicuous place on the lawn, but even there I have seen worse plants, but for any place a little retired I like it, and shall cultivate it as long as I have a garden. The flowers are handsome, the plant vigorous, and the seed-pods make one of the best of pickles. You will do your readers good service by calling attention to its merits, and for this reason I now suggest it to you.—G. W. M.

We well recollect when, some years ago, and after several years of testing the plant, we advised our readers to give it a trial, as we considered it both useful and ornamental; for while it is a rather coarse, robust plant, some varieties are quite handsome and the flowers fragrant, and the seed-pods of *M. proboscidea*, when about half-grown, make, as stated by our correspondent, the best of pickles. The little engraving shows the form of these curious seed-



pods, which at maturity are more than six inches in length. The engraving also gives a front view of the flower, which is tubular and some two inches in length. Seeds may be sown in open ground as soon as the weather is tolerably warm.

WINTER TREATMENT OF SOME PLANTS.

MR. VICK:—Will you tell us, very plainly, how to force *Lilium longiflorum* for winter-blooming?

Will *Epiphyllum truncatum* and *Rivinia humilis* do well at a temperature of 65°?—C. M. M., *Tuscola, Ill.*

A temperature of 40° to 45° is high enough for *Epiphyllum* during the fall months, but when it commences its growth the heat should be increased to 60°, and continued until it shows flowers. After this a lower temperature is preferable.

Rivinia humilis does not require much heat; 65° is ample.

Pot good bulbs of *Longiflorum* in September or October, keep them rather cool for a month or two, then give them ordinary greenhouse treatment.

PLEASANT AND OFFENSIVE ODORS.

A contributor to the Torrey Botanical Club, W. R. G., in writing upon the "Odor of the Phalloids," a class of Fungi, says: "I was once asked by a friend who brought me the unexpanded volva of a Phallus as the supposed cause of an intolerable stench which proceeded from beneath a porch in front of his house, and which had caused his family great annoyance: 'What good are these things; and, having such a vile odor, why do they remind us of it by so persistently thrusting themselves beneath our very noses?' The first question, in the present state of our knowledge, would be difficult to answer. So far as we know, these plants are of no practical use to man—being fit neither for food nor medicine; and, from an æsthetical standpoint, the species of the temperate zones, at least, have little to recommend them to the sense of sight, as most certainly they have nothing to commend them to that of smell.

"The second question, I think, has been sufficiently answered; although, in connection therewith, I may repeat what has often been remarked before, that the fragrant odors or the vile smells possessed by plants have been assumed by the latter with no reference whatever to man's delectation or annoyance, but, on the contrary, that they may prove advantageous to the plants themselves. It was probably with a feeling, shared by many, that all things have been created for man's benefit alone, that led Bernardin de Saint-Pierre to write: 'Plants which exhale delicious perfumes are of low stature in order that man may respire them.' But Saint-Pierre, in his conceit, overlooked the Magnolias, the Honey-locusts, and a host of other trees which bear their fragrant blossoms way up out of man's reach."

NARCISSUS.

MR. JAMES VICK:—We have an old garden containing, among other things, a large quantity of Narcissus. For a long time we have had an abundant crop of leaves and blasted buds. Can you tell us what to do to remedy this evil? If we take up the bulbs, when will be the proper time to move them from the ground, and how long will it be well to leave them out before they are reset? If you can inform us of any plan by which the pretty things can be made to bloom, you will greatly oblige us, and many others who are equally ignorant.—D. S. S., *New Bedford, Mass.*

As soon as the leaves ripen, turn yellow and fall to the ground, take up the Narcissus bulbs, and, after drying, separate them. Keep them in a dry, cool place, in some drawer or in paper bags, until September. Then plant them in another place, first having prepared the soil by an addition of sand, or light earth, something to lighten it; a thin dressing of lime and ashes a few weeks before planting would do good.

A WINDOW GARDEN—MOLES.

MR. VICK:—I want to tell you how I got a plant room. My husband was so much pleased with the plan of a basement conservatory published in the MAGAZINE some time since, that he made me one, but ours is not in the basement; it is off the room that answers for sitting and dining-room. It is seven feet wide and nine feet long, has double windows, and a blank wall painted a very pale pink. The Madeira Vine, Abutilon Mesopotamicum and Pilogyne suavis are trying which can run fastest on the wall. The green leaves appear very pretty on the pale wall. The floor of the plant room is painted to look like marble. I have a few mats that I take up and shake, and run a damp mop on the floor before I brush, so I have not much dust. When I water or sprinkle the plants, I stand on a chair and shower them—make them believe it is raining. The water runs off the shelves on to the floor. Mrs. Vick Geranium is flowering her best. Heliotrope is in bloom, and the Sweet Jasmine; if there is but one flower open of the Jasmine, it perfumes the room. Begonia rosea is full of blossoms, and a very pretty shape. Picta has every so many large beautiful leaves. I have two basket plants—Othonna, one yard two inches long, and Oxalis floribunda rosea, always in flower. Malvaviscus is a large plant always in bloom. I was afraid something was the matter with it when I first got it, as the branches and leaves were covered with something like sand. It must be all right now, for it is very strong.

Last summer I lost one-half my plants and bulbs by moles. Kerosene oil drives them away, but they return again. Poison Corn, however, will finish them.—MRS. N. J., *Millington, Mich.*

THE CALLA IN THE CROCK. --As the peculiar treatment I have given my Calla has been alluded to, I will say that the crock in which it is placed is a common glazed jar, without drainage, and the water covers the earth all the time. The plant has now seven leaves, and two more flower buds almost ready to open, the first one having opened about February 12th. I would suggest the use of charcoal in the bottom of the crock, with now and then a few drops of ammonia in the water.—C. W. T.

A FINE PLANT OF MAURANDYA.—A correspondent, writing from Clintonville, in West Virginia, says: "I planted a Maurandya Vine in a sheltered place," last year, and it grew eight feet high, and covered a space four feet wide with its branches, and bloomed continually until the third frost. It certainly was beautiful."

THE BEET FOR GREENS.

There is nothing we like so well for spring and early summer greens as young Beets. If gathered when the roots are about as large as a Radish, and cooked, tops and all, they make a dish fit for a king, or any one else. The season for these small Beets is short, but, fortunate-



ly, we have a class, with thick leaves and a fleshy midrib, that, when cooked, are quite equal to Asparagus, and by many preferred to this popular vegetable. Some years since, we sent to the editor of the *Montpelier Farmer*, of Vermont, a collection of vegetable seed, and, of course, included among the number a package of our favorite Beet seed. It took even an editor some time to find out its value, but, at last, by some good luck he blundered into it, as will be seen by the following which we take from a recent number of that journal: "That the American people are fond of greens there is no doubt. Every spring the meadows and pastures are searched by hundreds of boys and girls in pursuit of Dandelions for greens, which are considered both healthful and delicious as an article of food, when properly cooked. Beet tops and Cowslips are also used for greens, although the latter are not very tempting, while the former are not considered very healthy, especially if eaten in large quantities, or late at night.

"Some three or four years ago, among seed sent us by JAMES VICK, of Rochester, N. Y., was a paper labeled "Beets, Beck's Improved Sea Kale." By turning to his CATALOGUE, we saw that he recommended it for greens. We sowed the seed in the garden by the side of the Beets, and pulled the plants the same as we had the young Beets. We found that they made the best greens we had ever eaten, being fully

equal to the tenderest Dandelions. Last year, when we were ready to plant our early garden seed, we found that we had only about twenty seeds of this kind left, and it was too late to send for more. We sowed them some ten inches apart in the row, and when the plants were of sufficient size, broke off the outer stalks the same as we would Rhubarb. We were surprised to find that in an incredible short time the center shoots had grown up and taken the place of the ones we had picked, and we repeated the picking process. We did this through the entire season, and the twenty plants or so not only supplied us with greens, but we picked several messes for our neighbors and friends, who all said that they were the most delicious greens they ever ate, and such we have always found them.

"We do not consider any garden complete without a row of this variety of Beet. The seed resembles the Beet seed, and cannot be told from it, and the leaves and stalks resemble a cross between the Beet and the Rhubarb. The stalks should be cooked with the leaves, no matter how large, for they will be perfectly tender and very good eating. Do not confound it with the ordinary Sea Kale, which is entirely distinct from it, and belongs to the Beet family."

THE SWEET PEA.

Among our sweet summer flowers, there are very few more desirable than the Sweet Flowering Pea. They give us all colors, from dark purple to white, and several colors on the same flowers, and for cutting for bouquets, we know of nothing better, though they do not last very



long after cutting. Sweet Peas are excellent for a garden hedge or screen, or for little clumps of a dozen or more, supported by common Pea sticks, and if the soil is rich, and the weather not too dry, will grow five feet or more in height,

and continue to bloom all the summer, if the flowers are removed as soon as they begin to fade. Sow the seed at least four inches deep, and as early in spring as the ground can be made ready. Hoe the earth towards the plants, as for common garden Peas, and furnish support early. Our engravings show a few flowers about the natural size; a single plant, exhibiting its



habit of growth, and a piece of a hedge, supported by sticks something in the form of a trellis. A good deal of pleasure is to be obtained from a paper of Sweet Pea seed, as we have had reason to know from many years' experience.

THAT DOUBLE HEPATICA.

MR. VICK:—I write to confirm the statement of Miss A. B. S. in the February number of your MAGAZINE, in relation to the double Hepatica found growing wild on the shore of Canandaigua lake. Your correspondent, M. A. K. M., in the April number, seems to have some doubts as to its truth. The specimen was found by one of the most prominent members of our botanical club in the spring of 1878, and presented at one of our weekly meetings, creating much interest. The writer counted the petals of each of the three flowers growing on the plant, and they numbered respectively, 113, 117, and 119. Nothing so novel and beautiful had ever been seen before by any of the members of the club. I planted the root in my collection of wild perennials, and, last spring, it blossomed with all its original characteristics. Should it blossom again this spring, I will send you a specimen.—M. F., *Canandaigua, N. Y.*

MONK'S-HOOD.

MR. VICK:—Judging by your correspondence, the "blue fever" must be at its height; and, as "similar things cure similar," *similia similibus curantur*, I, too, shall administer a homeopathic dose. The very bluest flower I have ever seen is the Aconite, or Monk's-Hood, as we used to call it in Scotland, which name was given on account of the flowers being shaped like that part of the monastic dress. I have never seen the flower on this side of the Atlantic, but am sure it would do well here. The plants are robust and grow to the height of two or three feet; the blossoms last all summer, and are borne on long, upright spikes. From these flowers of deepest blue, we obtain the blessed aconite, so almost miraculous in its power to allay the raging of fever.—MRS. D. C., *Louisiana.*

BIRDS AND FRUIT.

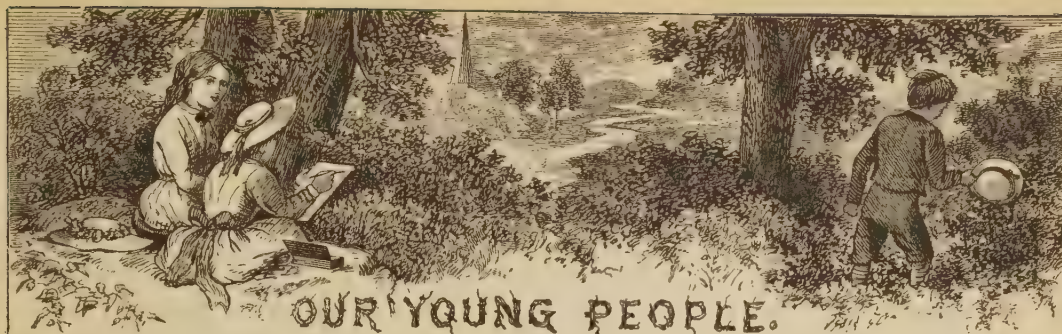
MR. VICK:—I was very much interested with the item of experience from your able correspondent, "Sigma," in the April number, concerning the Cherry Bird, and can very readily accept his statements, though seemingly at variance with my own. The truth is, birds are generally most abundant where their specialties in food are most plentiful. As our section of country is less a Cherry-growing district than the Delaware, this may account for the comparative scarcity of the birds in question, and make it necessary for them to cultivate an appetite for other dainties besides the much coveted Cherry. It will be interesting to me, and doubtless to many of your readers, to hear again from your correspondent of the Delaware on similar topics affecting our common interests in fruit and flower growing.—ARTIST.

A BEGONIA.

MR. VICK:—I have a large Begonia that had a flower-stem three feet high, and it was in bloom nearly six months. The leaves are as large as a Palm-leaf fan, and have deep points all around. The lady who gave it to me called it Palmetto Begonia. Is that the right name for it?—JENNIE E. E., *Camden, Ohio.*

There are so many species and hybrid varieties of Begonias, it is impossible to decide from the description which one this plant is; possibly it is *B. ricinifolia*, or the Castor-Bean-leaved Begonia, which it apparently resembles in form of leaf.

SALTPETRE FOR INSECTS.—An enquiry has been made about the proportion of Saltpetre and water to be used in forming a mixture for the destruction of Squash-bugs and other insects. We would state that it is a teaspoonful to a gallon of water, or a tablespoonful to a common pailful of water.



BOTANY FOR LITTLE FOLKS.

The calyx and corolla, sepals and petals, are frequently called the floral envelopes, thereby implying that they are protective organs. The pistil and stamens are the essential organs of flowers, and the sepals and petals are wrapped about them in the bud, sheltering them from cold and storm and the touch of other bodies. heretofore, in all the flowers of the different families noticed, we have found present a calyx and a corolla consisting of either separate or united petals. As examples of flowers without petals, those of the Buckwheat, Dock, and Rhubarb are now presented.

We have already learned that those flowers having separate petals are called polypetalous, or many-petalled; and the families comprising them are grouped together into a division called the polypetalous division. In the same manner, all those, like the Morning Glory, the corolla of which is in a single piece, or with the petals united more or less, into a division called the monopetalous division.

Those flowers without any petals are called apetalous. One signification of the Greek *a* is said to be privative, or denoting absence; thus the two parts of the word, *a* and *petalous*, signify without petals. All plants with flowers lacking petals are grouped together into a division called the apetalous division.

Thus the great class of exogens, or outside-

growers, composed of many families of plants, is divided into three parts, or groups, known as

1. Polypetalous Division.
2. Monopetalous Division.
3. Apetalous Division.

According to Dr. GRAY, the native plants growing in the northern part of this country and that are arranged in the three divisions, belong to **III** families or natural orders, and fifty-seven of these families belong to the polypetalous division, twenty-seven to the monopetalous, and twenty-six to the apetalous division. This statement is as exact as it can be made in order to give a clear view of the relative size of the divisions, but it is



Fig. 1. *Rumex crispus*.



Fig. 3. *Rumex* Ovary Magnified.

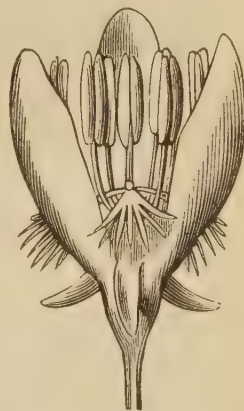


Fig. 2. *Rumex* Flower Magnified.

not strictly true, for the fact is, some of the members, in many of the families, are not governed by the precise rules that the other members observe, and, therefore, while the family ties are seen to be strong, it is also observed that there are strong relationships to families in other divisions, so that one part of a family belongs in one division and another part in another; there are no such strong lines of division in nature as some of the terms of scientific classification denote. This remark holds true and is exemplified in various ways in all plants, and in every part of their organization; perhaps, in none more so than in the floral envelopes. And the distinction we have endeavored to point out between flowers with both calyx and corolla and apetalous flowers often appears more fancied than real. Then, again, the calyx often simulates the most showy corolla, as, for

instance, the Four-o'clock, *Mirabilis Jalapa*. In this case, what is popularly called the flower, is a calyx; that is, botanists consider, when only one floral envelope exists, or one series or row of organs, that it is a calyx, either of united or separate sepals. For convenience, the term perianth is used. But it often happens that some of these parts differ from the others in form, and even in color, although of the same series, thus appearing like calyx and corolla. The magnified flower, figure 2, of the Curled Dock, *Rumex crispus*, is an illustration in point; the alternate segments of the perianth are smaller and larger, apparently bearing the relation to each other of sepals and petals.

From what has now been said, the young student will perceive that his own investigations must be made with much care, and it will be necessary to be guided, to a great extent, by the labors of those who have preceded us, until we are sure of our ability to form correct conclusions from our personal observations.

By comparing the three sets of illustrations of the *Rumex*, the *Rhubarb* and the *Buckwheat*, we perceive



Fig. 5. Rhubarb Flower. Magnified.

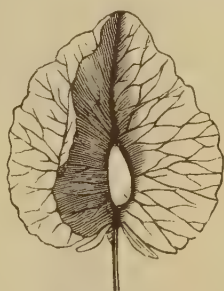


Fig. 4. Rumex Fruit. Enlarged.

their resemblance. In general appearance, these flowers are quite dissimilar, but we notice in each the single perianth, and the three-cornered ovary surmounted by three styles. The fruit is three-cornered, the appearance of which we are familiar with in the common *Buckwheat*. The seed or fruit of the *Rhubarb*, and of the *Docks*, is winged on the angles. All of these plants are so common that any one can without difficulty have the opportunity of examining them, and others, and thus become acquainted, at least, with the most prominent distinguishing traits of a family of plants called the *Polygonaceæ*, or *Polygonum*-like plants. The family name in this case is derived from the appearance of the stems of these plants, as at the base of every leaf the joint or node is prominent, and the stem changes slightly in direction; *poly* meaning many, and *gonu*, a knee.

The principal genus of this order is *Polygonum*, and some of the species we all know, un-

der the names of *Knot-weed*, *Smart-weed*, or *Goose-grass*. A very noticeable feature in these plants, is the conspicuous stipule at the base of the leaf, forming a sheaf at each node. *Smart-weed* bears the scientific name of *Polygonum hydropiper*—the specific name, meaning water-pepper, given it on account of its growing in low, wet places, and because of its acrid juice, which is so powerful as to produce inflammation and blistering when applied to the skin. Formerly, this plant was much employed by

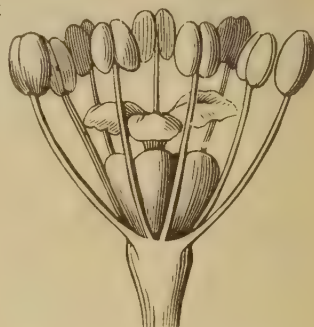


Fig. 6. Stamens and Pistils of Rhubarb. Magnified.

physicians, but at present it is nearly neglected, except to some extent in domestic use. Three or four years since, a great deal was published, by the newspapers, about a foreign demand for a plant, growing largely in this country, to be employed for tanning purposes, since the amount of tannin it contained and the abundance of of the plant made it cheaper than any other material for the same use. This plant proved to be the *Polygonum amphibium*. The facts in regard to it have not warranted the expectations concerning it, although it contains a small amount of tannin, as do most of the species. More than fifty years ago, *LOUDON* wrote that *P. bistorta* could be economically used for tanning, but time has not proved the suggestion of value. The last-named plant is sometimes cultivated in gardens for its pink flowers, and formerly its roots were used in medicine, under the common name of *Bistort*. The roots are very astringent, but this quality may be removed by steeping in water, and there is then left an abundance of nutritious starch, and, on this account, it is used in some parts of Russia and Siberia as food in times of scarcity.

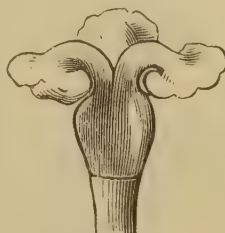


Fig. 7. Rhubarb Pistil. Magnified.

The common *Knot-grass*, *Goose-grass*, or *Door-weed*, *P. aviculare* and also *P. tinctorium*, are cultivated in China for dyeing cloth a beautiful blue or green. *Smart-weed* is frequently used in the same way in this country for dyeing yellow. *P. orientale* is the *Prince's Feather* often seen in gardens, prized by some for its bright rose-colored flowers. *P. viviparum* is quite a remarkable species, from the fact that often, in the place of its flowers, is produced a spike of

little red bulblets, from each one of which a plant may be propagated; thus we are able to perceive how slight the difference is between a bulb and a seed, and how easily the parts of a plant change form and are convertible into each other.

Buckwheat was called by LINNÆUS *Polygonum Fagopyrum*, but it is now placed in another genus and known as *Fagopyrum esculentum*.



Fig. 8. Buckwheat Flower. Magnified.

The flower of the Buckwheat has eight stamens, and at their base, placed between them, are eight yellow glands yielding the honey that makes this plant so valuable to the bees; immense quantities of honey are gathered from it late in the season that serve mostly for the bees' winter store.

Much as these flowers are visited by insects, the most rigid experiments have failed to prove the necessity of their attendance for the purpose of fertilization. Some trials conducted by CHARLES DARWIN showed that, early in the season, insects were of some service; but later, when the pollen was abundant, the flowers were quite self-fertilizing. To use the long word we have previously learned, these flowers are classed as *Anemophilous*, or wind-loving.

The many species of Dock, or *Rumex*, grow wild, will only be alluded to. Some of them are well-known as *Patience Dock*, *Long-leaved*

Coccoloba platyclada, cultivated for ornament, as a basket and vase plant. Like some of the Cacti, it consists of numerous flat sections, apparently jointed together, stem and foliage being one and the same. This plant is sometimes called *Sea-side Grape*, on account of its native place of growth being near the sea and the appearance of its raceme of fruits. *Coccoloba* means lobed-fruit; the seed is three-lobed. Three-lobed or three-angled fruit is a mark, as before observed, of this family. Several species of *Coccoloba* are small-sized trees, furnishing valuable wood for cabinet work.

The prominent characteristics of the Buckwheat family, as this order is sometimes called, which have now been noticed, our readers will have abundant opportunity to observe, and thus acquaint themselves more perfectly with a very marked and distinct class of plants.

MY BULBS.

"And the dinner, mum? It's yourself always looks after it on the wash-days, but I'll be doin' my best to please you."

"Yes, indeed," I sighed, trying to lift my head from the pillow, but it throbbed so, I fell back in despair. At that moment I remembered that Henry asked for it about an hour earlier than usual, as he was to take the train, so there was little time to spare.

"And the vegetables, mum?"

I remembered that the canned Tomatoes were all gone, and no potatoes, and no time to send out, so I told Biddy:

"Mr. Lovejoy is to go on the train, and wants dinner at two. He is very fond of fried Onions; it don't take long to cook them, and there are some small ones in a paper bag on a shelf in the cellar. Pick out the largest, slice thin and fry them with the steak. Get anything else you can find, Biddy."

As the willing Biddy went clattering off, I remembered with dismay that the smell of the Onions would be almost unbearable to me, but I was too ill to ring the bell and call her back; and with my over-sensitive ears and that clairvoyant state a nervous headache always brings, I knew every step of the progress of that dinner, though I wondered vaguely, as I heard the Onions frying, that they did not sicken me as usual, and was thankful for the respite.

Before dinner was ready in came Henry. There was a hasty preparation for the inevitable trip, inquiries for my welfare, a very hurried bolting of his dinner when he found train-time had been changed, a kiss of good-bye, and he was off.

Having recovered during the night, and, next day, again interested in life, when my neighbor,



Fig. 9. Buckwheat Fruit. Enlarged.



Fig. 10. Buckwheat Pistil. Magnified.

Dock, *Great Water-Dock*, *Curled Dock*, *Bitter Dock*, *Bloody-veined Dock*, *Golden Dock*, &c. The common field or sheep Sorrel is a *Rumex*, *R. acetosella*. This plant everybody knows and has eaten its leaves, which are of a lance-halberd shape. It is so abundant in many poor fields as to make them red with it when in bloom and fruit. A most curious plant of this family is

Mrs. Ross, called, we got to talking about bulbs; and, boasting of my superior ones, I went to the cellar for mine, but, behold! of all my beautiful large *Gladiolus* and *Hyacinth* bulbs lately purchased, not one was left—only a few refuse bulbs of my own raising were in the bottom of the bag.

Greatly I wondered, until I espied the bag of Onions, on the same shelf, intact, and asked Biddy about it.

"An' faith, mum, I thought it quare they didn't make my eyes to water when I was a peelin' of 'em, but thought my eyes was a gettin' stronger than they was."

When the whole story had been told to Henry, and, after he had recovered from his fit of laughter, he said: "They looked like Onions, and I laid their want of taste to my epizootic!"

"Oh, Henry! three dollars' worth of bulbs at a meal! It's as extravagant for us as Cleopatra's pearl-drinking was for her."

"Never mind; it can't be helped now, and we'll have to make it up out of something else. Here's a V to get some more," and Henry went away, still laughing.—M. H. J.

CHILDREN AND FLOWERS.

Now that spring has fully come, and the lovely month of May is here with its wealth of Apple blossoms, and the children are teasing mamma to go and play with, perhaps, some neighbor's children that possibly she would prefer they did not, but does not like to say so, just walk into the garden and select a good spot (for each child old enough), and show them how to plant seeds. Take, Sweet Peas, for instance, and, with a stick, make a hole in the ground a few inches deep, and drop a Pea into each hole, and cover with the soil. Teach them how, if watered, and the sun's warmth penetrates through the soil, that in a few days a little green shoot will be seen. You will be surprised what ready and happy pupils they will prove, and how, when a taste for flower-culture is acquired, you will have the joy of knowing that their little feet will love to linger in the atmosphere of mother's love, and that temptation and its dark ways will have less and less power over their young hearts. Would that we had an inspired pen, to teach parents how elevating and beneficial such a course persistently taken would prove.

And how simple a lesson it is—how to plant a few seeds, and then watch for their growth. I remember, when a child, breaking a branch from a Currant bush and sticking it in the ground. It did grow, and my simple soul never doubted but that was the way all trees were planted.

DIARY OF AN ELECTRIC GARDENER.

The use of the electric light in plant-growing is creating much interest in England, and, withal, there is some fun about it. *Funny Folks*, a humorous sheet, gives some extracts from an imaginary diary of a future gardener, as follows.

"Awfully sleepy; up all night growing a Pine forest for Lord Pibroch's new Scotch estate. No time for rest, however. There's the new Potatoes for Sir Morris Millyunair's dinner to-day, still unplanted; and the Duchess of Doublechin will certainly withdraw her patronage if her bouquet is not in full bloom to the very minute."

"Great nuisance this. While I was at dinner the Duchess's flowers have not only bloomed, but run to seed. Must plant another lot, and put on ten extra candle power, as the evening is drawing on; dig and dispatch the baronet's Potatoes; also get the *Muddlepuddleton Chronicle's* annual enormous Gooseberry under cultivation. As I have contracted that it shall weigh three tons, and measure a mile in circumference by next Thursday, I can't afford to be backward with it."

"Duchess's bouquet all right. Think I should like a few Green Peas with the lamb at supper. Sit down here and have a quiet smoke while I watch 'em grow."

"Eh? Hullo! Why, I must have dropped off! May have been asleep for hours, seeing that—No—yes, by Jove, it *is* so! The strongest Jablochkoff is turned full on, and one of my confounded Pea vines has carried me up with it. I'm ten feet from the ground already, and I'm still going up. Hi, there! For goodness' sake, bring a ladder, somebody, and turn off that light!"

A MINER'S SUPERSTITION.

"The growth anywhere of the poisonous, rank Red Fungus, or Mushroom, known in botany as *Agaricus muscarius*, marks the spot where gold can be found."

The above item is making the rounds of the country press. It seems almost superfluous to say there is no truth in the statement, but, possibly, by so doing many may be saved from prospecting who could well be employed in something useful.

There is one almost infallible indication of gold, and that is a skillfully-cultivated crop of any of the numerous products that minister to the necessities of mankind.

Oh, for a spot of living green—

One little spot where leaves can grow—

To love unblamed, to walk unseen,

To dream above, to sleep below!

—WHITTIER.

FUNNY NAMES FOR A FLOWER.

A good many flowers have funny names, so that we do not now what people mean sometimes when they call flowers by their common names. Sometimes a flower has a dozen of these names, being known in one section by a certain name, which is probably unknown fifty



miles away. A young reader calls our attention to a name which he had heard, and from its singularity, Love-in-a-Puff, was induced to grow plants last summer, which proved to be *Nigella*. It has also another nickname, not so pleasant, Devil-in-a-Bush. There are several varieties of this flower, all annuals, mostly blue and purple, though there some white and pink, curiously formed and pretty flowers. We give an engraving of a flower taken from a specimen grown in our ground several years since.

THE PERFUMES OF FLOWERS.

Of all the qualities which flowers possess, perhaps none have recommended themselves more to our notice than their perfumes. They are the most spiritual part of them, and administer the most æsthetic delight to the human soul. We feel ready to concede the utilitarian origin of all other qualities of flowers rather than that of perfume. There is something so ethereal about it, and something approaching to and suggesting immateriality, that we cannot wonder if the stern analysis of modern science produces the sensation of a shock when it declares that this subtle quality had its origin in a simple bid for the services of various kinds of insects. We may have previously concealed from ourselves the fact that many flowers emit odors which are

not pleasant to us; whilst others are actually disagreeable and even repulsive. We have exercised a pleasant and unconscious eclecticism, and selected for our delight those which administered the most pleasure. And yet it would not be impossible to construct a scale of floral perfumes in which we should have the most delightful at one end and the most disagreeable at the other, and these two extremes should be almost imperceptibly connected by varying odors.

With ourselves the perfumes of flowers administer more to our sense of delight in them than either shape or color. They linger longest in our memories, and are not unfrequently silent pegs on which hang many of our saddest or most pleasing associations. With what delightful sadness does the perfume of the first sweet Violet of spring greet the nostril! There is an odor of dead or far-off and long-forgotten memories about it.

The perfumes of our most

familiar flowers will revive associations of by-gone times and old associations sooner and more vividly than anything else in nature.

Yet chemists tell us how little actual matter of the kind is required to create the sense of smell even in man, and we know that it is much more highly developed in many insects. The merest trace of otto of roses will produce in our nostrils a sense of its pleasant perfume. The most inappreciable particle of musk will scent our clothes for years, and it has been shown that even our own sense of smell is able to detect the three one-hundred millionth part of a grain of musk! In this respect our olfactory nerves far transcend in keenness of detection the power of even spectrum analysis.

Many of the perfumes sold for toilet purposes have been manufactured in the chemist's laboratory, instead of in the secret bosom of flowers; although, at present, it is easier to imitate those odors we call aromatic than any others. Thus, the Benzoic series of aldehydes includes many useful perfumes, as those of Bitter Almonds, so commonly emitted by Rosaceous flowers, such as the Hawthorne, Meadow Sweet, *Spirea ulmaria*, and many others. The well-known smell of new-mown hay is due to a peculiar chemical principle called Coumarin, which can be produced by chemists artificially; as can be also

that of Aniseed. It is Coumarin which gives the Sweet Vernal Grass, *Anthoxanthum odoratum*, the Sweet Woodruff, *Asperula odorata*, and Melilot, *Melilotus officinalis*, their characteristic odors. The smallest particle of naphthaline, disseminated in a room, will produce the characteristic odor of Jonquil and Narcissus. Many other combinations of hydro-carbon compounds afford us a glimpse of the possible chemical changes which take place in flowers, and that cause them to emit perfumes at once so delightful, and to themselves useful in attracting insects to cross them.—J. E. TAYLOR.

EVERLASTING FLOWERS.

The young ladies in some sections are giving a good deal of attention to growing Everlasting Flowers, which are picked when in bud, or as soon as the flowers expand, dried and put away for use in winter, and they are of special value about the holidays. The *Helichrysum*, *Gomphrena*, and *Acroclinium* are easily grown and



HELIPTERUM SANFORDI.

among the most valuable of the Everlastings. Many persons write for seeds of a little flower known as the French Immortelle. This flower bears no seed, and the flowers are imported from France. The natural color is light yellow, but they are bleached white, and dyed many

colors. We have, however, a little annual that can be grown with ease, forming clusters of little bright yellow flowers, and is one of the very best of its color, *Helipterum Sanfordi*. The plant grows about a foot high. Flowers should be gathered



FRENCH IMMORTELLS.

as soon as the buds begin to open, tied up in small bunches, and hung up in the shade until the stems are dry.

PREMIUMS.

Some of our friends have suggested that we offer premiums for obtaining subscribers. As a slight compensation to those who labor among their neighbors in getting up clubs, we propose to give one of our FLORAL CHROMOS, on paper, to every one who sends us a club of *Five Subscribers*; and for *Twelve Subscribers* one of our CHROMOS ON CLOTH AND STRETCHER, both sent postage free. To any person sending us *Twenty Subscribers* we will forward by express, expressage paid by us, one of our FLORAL CHROMOS NICELY FRAMED IN WALNUT AND GILT. All to be at club rates—\$1 each. Or, if preferred, the same value in Flower Seeds.

Some may prefer that their school shall have the benefit of their services, and so help the children. For this purpose, we offer a very splendid premium list. If it has not yet been received, send for it and set the whole school at work.

BINDING THE MAGAZINE.

We will bind the MAGAZINE for any subscriber for 50 cents, and return the book with the postage or express charges paid by us.

Our colored plates are so handsome that some are tempted to take them out for framing. We will send extra colored plates to any of our subscribers for FIVE CENTS each.

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Many persons would like occasionally to send some number of the MAGAZINE to a friend, on account of some article or illustration, but dislike to lose a number from their volume. To our subscribers we will send extra copies for ten cents each, or will mail them to any address desired.

OUR FLORAL GUIDE.

It is our intention to make every subscriber to the MAGAZINE a present of a copy of our FLORAL GUIDE. It is very handsome—100 pages, 500 illustrations, and an elegant colored plate. If any of our readers have failed to receive it, please send us a postal card stating the fact.

A GARDEN BOOK.

Besides this MAGAZINE we publish VICK'S FLOWER AND VEGETABLE GARDEN, an elegant work, with numerous illustrations and six beautiful colored plates—five of flowers and one of vegetables. It is a book of 170 pages. Price, 50 cents in paper covers, \$1 bound in cloth.



PAINTED FOR VICKS MONTHLY
GARDEN VASE.